



The logo is contained within a rounded rectangular border. On the left, the text "CONTACT DIG SAFE" is at the top, followed by "72 HOURS PRIOR TO CONSTRUCTION" in a smaller font. Below this, "DIGSAFE.COM" is written in a large, bold font, and "DIAL 811" is at the bottom. To the right of the text is a circular symbol with a diagonal slash through it, superimposed over an illustration of a shovel digging into the ground.



Ironwood
Landscape Architecture • Planning
Newmarket, NH | Portland, ME | 603.772.0598 | www.ironwood.com

HOYLE, Tanner & Associates, Inc.
100 International Dr. #360, Portsmouth, NH 03801
Tel (603) 431-2520 Fax (603) 431-8067 Web: www.hoyletanner.com

PROJECT
SHEEHAN-BASQUIL PARK
RENOVATION - PHASE II
MANCHESTER, NH

FILE SHEET

C1

PROJECT NO. 111121

PAGE 1 OF 16

GENERAL NOTES:

1.

THE EXISTING SITE DETAILS DEPICTED HEREON ARE THE RESULTS OF AN ON THE GROUND SURVEY CONDUCTED BY THE CITY OF MANCHESTER IN NOVEMBER 2019 AND FEBRUARY 2020.
2.

NO WETLANDS WERE IDENTIFIED WITHIN THE PARCEL.
3.

THE CONTRACTOR SHALL VERIFY AND DETERMINE THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL LOCATE THE UTILITIES SHOWN AND THE POSSIBLE EXISTENCE OF OTHER UNDERGROUND UTILITIES BY PROVIDING OBSERVATION TEST PITS. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (888) 344-7233 AND THE CITY OF MANCHESTER 72 HOURS BEFORE DIGGING.
4.

THIS PROJECT IS TO BE CONSTRUCTED TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE CITY OF MANCHESTER STANDARD SPECIFICATIONS FOR ROAD, DRAIN & SEWER CONSTRUCTION REVISED JAN. 22, 2020. THE CONTRACT PLANS & SPECIFICATIONS AND NHDOT STANDARD SPECIFICATIONS, LATEST EDITION WHERE APPLICABLE.
5.

THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, TEMPORARY UTILITIES AND COORDINATION WITH ALL AGENCIES IN OBTAINING ACCESS TO THE SITE AND PERFORMING ALL WORK REQUIRED FOR THIS PROJECT.
6.

WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
7.

CONTRACTOR SHALL PROTECT AND MAINTAIN EXISTING BENCHMARKS AND BOUNDS. ALL BENCHMARKS AND BOUNDS DISTURBED BY THE CONTRACTOR SHALL BE RE-ESTABLISHED BY A NEW HAMPSHIRE REGISTERED LAND SURVEYOR AT NO EXPENSE TO THE OWNER.
8.

THE CONTRACTOR SHALL PERFORM ALL THE CLEARING AND GRUBBING NECESSARY WITHIN THE CONSTRUCTION AREA, LIMITING THE AMOUNT OF CLEARING AND GRUBBING TO THE EXTENT POSSIBLE.
9.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY EXCAVATION SAFEGUARDS, NECESSARY BARRICADES, POLICE DETAILS, ETC., FOR TRAFFIC CONTROL AND SITE SAFETY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL WORK IS DONE IN ACCORDANCE WITH OSHA REQUIREMENTS.
10.

ALL DEWATERING MUST BE EXECUTED IN ACCORDANCE WITH THE PLANS AND NHDOT STANDARD SPECIFICATIONS DIVISION 600. REGULATIONS PROHIBIT DISCHARGING GROUNDWATER TO A SANITARY OR COMBINED SEWER WITHOUT PERMISSION.
11.

WHEN PREPARING THE EXISTING SITE FOR THE PROPOSED DEVELOPMENT, ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL GOVERNING AGENCIES.
12.

THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS OF THE SITE.
13.

ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS WITHIN THE LIMIT OF WORK.
14.

ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE LATEST EDITIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AMERICANS WITH DISABILITIES (ADA) ACT, AND STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS.
15.

THE CONTRACTOR SHALL SUBMIT AS-BUILT PLANS ON REPRODUCIBLE MYLAR AND IN DIGITAL FORMAT (AUTOCAD .DWG FORMAT) ON CD OR USB DRIVE TO THE OWNER UPON COMPLETION OF THE PROJECT. AS-BUILTS SHALL BE IN ACCORDANCE WITH CITY OF MANCHESTER REQUIREMENTS. AS-BUILTS SHALL BE PREPARED AND CERTIFIED BY A REGISTERED NEW HAMPSHIRE LAND SURVEYOR OR PROFESSIONAL ENGINEER. AN ELECTRONIC FILE OF THE SITE LAYOUT SHALL BE SUBMITTED TO THE CITY'S GIS DEPARTMENT.
16.

THE THE CONTRACTOR SHALL PROVIDE SUBMITTALS AND SHOP DRAWINGS OF ALL PRODUCTS TO BE TEMPORARILY OR PERMANENTLY INSTALLED TO THE INSPECTING ENGINEER FOR REVIEW AND APPROVAL AT LEAST TWO WEEKS PRIOR TO ORDERING. SUBMITTALS SHALL BE CERTIFIED BY CONTRACTOR FOR COMPLIANCE WITH PLANS & SPECS PRIOR TO SUBMISSION.
17.

ALL SIGNAGE SHALL BE SUBMITTED TO OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
18.

THE CONTRACTOR SHALL ACQUIRE APPLICABLE CITY OF MANCHESTER EXCAVATION PERMIT BEFORE ANY DISTURBANCE CAN TAKE PLACE.
19.

CONTRACTOR TO OBTAIN A NPDES CONSTRUCTION GENERAL PERMIT AND PREPARE STORMWATER POLLUTION PREVENTION PLAN IF REQUIRED.
20.

RETAINING WALLS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW HAMPSHIRE, IF REQUIRED.
21.

ALL CURB SHALL BE VERTICAL GRANITE UNLESS OTHERWISE NOTED.

DRAINAGE NOTES:

1.

THE STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. ALL PIPE MATERIALS SHALL BE AS SPECIFIED ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO CITY OF MANCHESTER STANDARD SPECIFICATIONS, SECTION 603. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604. ALL CATCH BASIN GRATES SHALL BE TYPE B AND CONFORM TO CITY OF MANCHESTER STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED.
2.

PROPOSED RIM ELEVATIONS OF DRAINAGE MANHOLES AND CATCH BASINS ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
3.

THE CONTRACTOR SHALL PROVIDE FOR THE HANDLING OF EXISTING FLOWS FROM SERVICE CONNECTIONS AND MAINLINE PIPES. THE EXISTING SEWERS AND DRAINS HAVE ACTIVE FLOWS AND THE CONTRACTOR SHALL MAINTAIN CONTINUOUS FLOW WITHOUT RESTRICTIONS.
4.

THE CONTRACTOR SHALL STABILIZE ANY AND ALL DITCHES, SWALES AND PONDS PRIOR TO DIRECTING STORM WATER RUN-OFF TO THEM.
5.

WHEN CONNECTING NEW PIPES TO EXISTING STRUCTURES SUCH AS MANHOLES AND CATCH BASINS, THE STRUCTURE SHALL BE COMPLETELY CLEANED OUT. THE HOLE MADE IN THE STRUCTURE SHALL BE AS SMALL AS NECESSARY. THE STRUCTURE SHALL BE REPAIRED TO MATCH ITS ORIGINAL TYPE OF CONSTRUCTION. THE JOINT BETWEEN THE STRUCTURE AND THE PIPE SHALL BE MADE WATERTIGHT BY FILLING THE JOINT WITH MORTAR.
6.

THE CONTRACTOR SHALL CLEAN THE ENTIRE STORMWATER SYSTEM OF ALL SEDIMENT AND DEBRIS, WITHIN THE LIMIT OF WORK UPON COMPLETION OF CONSTRUCTION.
7.

ALL DRAIN PIPE WITH LESS THAN 3' OF COVER SHALL BE INSULATED. INSULATION SHALL BE RIGID CLOSED CELL WITH A MINIMUM R VALUE OF 10.
8.

ALL PROPOSED CATCH BASINS SHALL BE DEEP SUMP CATCH BASINS WITH 4' SUMPS.
9.

ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF INSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN 3" TO JOINTS.

EARTHWORK & GRADING NOTES:

1.

GRADE AWAY FROM BUILDING WALLS AT 2% MINIMUM (TYPICAL).
2.

PROVIDE UNIFORM SLOPE BETWEEN CONTOURS AND/OR SPOT ELEVATIONS.
3.

EARTH SLOPES SHALL BE NO STEEPER THAN 2:1 (HORIZONTAL:VERTICAL) AND SHALL BE FLATTER WHERE SHOWN.
4.

GENERAL FILL BEYOND PAVED AREAS SHALL BE FREE OF BRUSH RUBBISH, STUMPS, AND STONES LARGER THAN 8". FILL SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 8" IN THICKNESS. THE DRY DENSITY AFTER COMPACTION SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR TEST AND DONE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D698.
5.

AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE, THE SUBGRADE SHALL BE LOOSENEED BY SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
6.

FILL OR TOPSOIL SHALL NEITHER BE PLACED NOR COMPACTED WHILE IN A FROZEN OR MUDDY CONDITION OR WHILE SUBGRADE IS FROZEN.
7.

FINISH PAVEMENT SURFACES AND LAWN AREAS SHALL BE FREE OF LOW SPOTS AND PONDING AREAS.
8.

ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS THAT DO NOT HAVE A SURFACE TREATMENT SPECIFICALLY SPECIFIED SHALL BE RESTORED TO A MINIMUM OF 6-INCHES OF SEEDED LOAM, FERTILIZER, AND MULCH.
9.

THE CONTRACTOR SHALL REMOVE, CONTAIN, TEST AND DISPOSE OF EXCAVATED SOILS IN ACCORDANCE WITH THE CITY OF MANCHESTER STANDARD SPECIFICATIONS DIVISION 200 – EARTHWORK.
10.

SPOT GRADES SHOWN ARE PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.
11.

CONTRACTOR SHALL MAKE EVERY ATTEMPT POSSIBLE TO SAVE EXISTING TREES AND MINIMIZE DAMAGE TO TREES ADJACENT TO CONSTRUCTION LIMITS DURING CONSTRUCTION.

EXTERIOR LIGHTS:

1.

THE SOURCE OF EXTERIOR LIGHTING SHALL NOT BE ARRANGED IN SUCH A MANNER AS TO BE DETRIMENTAL TO ADJACENT PROPERTIES OR CREATE A HAZARD ON PUBLIC WAYS.
2.

OUTSIDE LIGHTS MUST BE MADE UP OF A LIGHT SOURCE AND REFLECTOR SO THAT, ACTING TOGETHER, THE LIGHT BEAM IS CONTROLLED AND NOT DIRECTED ACROSS A PROPERTY LINE SO AS TO CONSTITUTE A NUISANCE.
3.

ANY PULSATING, FLASHING, ROTATING, OSCILLATING, OR OTHER TYPE OF LIGHTING INTENDED AS AN ATTENTION-GETTING DEVICE SHALL BE EXPRESSLY PROHIBITED, EXCEPT FOR AVIATION-RELATED PURPOSES.
4.

FLOOD LIGHTS, SPOT LIGHTS, OR OTHER LIGHTING DEVICES SHALL BE ARRANGED OR SHIELDED SO AS NOT TO INTERFERE WITH THE SAFE OPERATION OF VEHICLES OR AIRCRAFT.
5.

ALL PROPOSED LIGHTING SHALL BE DARK SKY FRIENDLY.

UTILITY NOTES:

1.

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE WITH THE UTILITY COMPANIES FOR RELOCATING AND/OR SUPPORTING THEIR UTILITIES IN ACCORDANCE WITH THE SPECIFICATIONS.
2.

THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO EXISTING FACILITIES AT ALL TIMES. IF ANY DISRUPTION MUST OCCUR, CONTRACTOR SHALL NOTIFY AND COORDINATE WITH FACILITY AT LEAST 72 HOURS IN ADVANCE.
3.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF EXISTING UTILITIES AND STRUCTURES DAMAGED OR REMOVED BY THE CONTRACTOR DURING THEIR OPERATIONS.
4.

THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
5.

FINAL ELEVATIONS OF UTILITY STRUCTURES ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES, AND OTHER UTILITIES TO FINISHED GRADE WITHIN LIMITS OF WORK.
6.

DURING EXCAVATION, IF IT IS ANTICIPATED THAT EXISTING UTILITIES AND SEWERS WILL BE EXPOSED. THE CONTRACTOR SHALL PROVIDE PROTECTION AND SUPPORT OF THESE FACILITIES AND REPAIR ANY DAMAGE CAUSED BY THE WORK IN A MANNER SATISFACTORY TO THE OWNER.
7.

ALL ELECTRIC MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE AS WELL AS STATE AND LOCAL CODES.
8.

INSTALL NYLON PULL ROPES IN UNDERGROUND CONDUITS TO FACILITATE PULLING CABLES.
9.

THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL HANDHOLES, FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
10.

THE CONTRACTOR SHALL REVIEW THE LOCATION OF ALL OVERHEAD WIRES WITHIN THE PROJECT AREA IN THE FIELD TO DETERMINE THEIR IMPACT ON CONSTRUCTION MEANS AND METHODS.
11.

THE NUMBER, TYPE, AND SIZE OF UTILITY CONDUITS SHALL BE DETERMINED BY THE UTILITY COMPANY AND/OR CITY OF MANCHESTER.
12.

THE EXACT LOCATIONS OF NEW UTILITY SERVICES SHALL BE DETERMINED BY THE UTILITY COMPANY AND/OR CITY OF MANCHESTER.
13.

ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
14.

ALL ON-SITE UTILITIES SHALL BE UNDERGROUND.

SITE PREPARATION NOTES:

1.

THE CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING AND NEW UTILITY LINE LOCATIONS PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICT TO THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
2.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION STAGING AND MATERIAL STOCKPILE LOCATIONS WITH THE CITY PRIOR TO THE START OF WORK.
3.

ALL ITEMS INDICATED TO BE REMOVED SHALL BE DISPOSED OF IN A LEGAL MANNER AT THE CONTRACTOR'S EXPENSE.
4.

TREE REMOVAL SHALL INCLUDE COMPLETE REMOVAL AND DISPOSAL OF TREE STUMP AND ROOTS 2" DIAMETER OR GREATER.
5.

EVERY EFFORT SHALL BE TAKEN TO PRESERVE THE HEALTH OF EXISTING VEGETATION TO REMAIN ON SITE. TREE PROTECTION MEASURES SHALL BE INSTALLED BEFORE ANY CONSTRUCTION ACTIVITY IS TO TAKE PLACE. TREE PROTECTION SHALL REMAIN INTACT THROUGHOUT THE DURATION OF THE PROJECT. ALL TREE PROTECTION SHALL BE REMOVED UPON PROJECT CLOSEOUT.
6.

ALL TREES AND VEGETATION WITHIN THE LIMIT OF WORK THAT IS IDENTIFIED TO BE PROTECTED SHOULD BE ENCIRCLED WITH AN ORANGE 4'-HIGH BARRICADE FENCE THAT IS WELL-STAKED FOR THE DURATION OF THE PROJECT. PROTECT TREE TRUNKS FROM ACCIDENTAL DAMAGE BY PLACING A BAND OF 2X4s AS NEEDED TO ENCIRCLE THE DIAMETER OF THE TRUNK TO A HEIGHT OF 8 FEET. SECURE WITH 2" POLYSTRAPPING WITH 0.20"- MINIMUM THICKNESS EVERY 18".
7.

THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN IS DEFINED AS A CIRCLE WHOSE CENTER IS THE CENTER OF THE TREE TRUNK AND WHOSE RADIUS IS EQUAL TO THE TREE'S DIAMETER AT BREAST-HEIGHT (DBH) IN INCHES TIMES 12".
8.

NO WORK, EQUIPMENT STORAGE, OR STOCKPIILING OR DISPOSAL OF MATERIALS SHALL TAKE PLACE WITHIN THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN UNLESS OTHERWISE CALLED OUT ON THE PLANS. ANY WORK WITHIN THE CRITICAL ROOT ZONE SHALL PROCEED WITH CARE, AND TREE PROTECTION MEASURES SHALL BE IMMEDIATELY REPLACED UPON COMPLETION OF THAT WORK.
9.

EXCAVATION WORK WITHIN THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN SHALL BE DONE WITH AN AIR SPADE AND/OR BY HAND DIGGING. IF REQUIRED, ROOTS SHALL BE CUT USING A STERILIZED HAND SAW, LOPPERS, OR HAND PRUNERS. ENSURE THAT CUTS ARE CLEAN WITH NO JAGGED EDGES. PROMPTLY BACKFILL ANY CUT ROOTS. IF CUT ROOTS WILL BE EXPOSED FOR MORE THAN A FEW HOURS, COVER THE EXPOSED ROOTS WITH WET BURLAP TO PREVENT THEM FROM DRYING OUT.

ABBREVIATIONS:

ABAN	ABANDONED
AC	ASBESTOS CONCRETE
ADJ	ADJUST
APPROX	APPROXIMATE
B=	BOTTOM=
BC	BOTTOM OF CURB
BERM	BITUMINOUS CONCRETE BERM
BIT CONC	BITUMINOUS CONCRETE
BLDG	BUILDING
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
BW	BOTTOM OF WALL
CB	CATCH BASIN
CBCI	CATCH BASIN CURB INLET
CI	CAST IRON
CICL	CAST IRON CEMENT LINED
CIP	CAST IN PLACE
€	CENTER LINE
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CP	CONCRETE PIPE
CR	CONDENSATE RETURN
DHW	DESIGN HIGH WATER
DI	DUCTILE IRON
DICL	DUCTILE IRON CEMENT LINED
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
DYCL	DOUBLE YELLOW CENTER LINE
EL, ELEV	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATION
EMH	ELECTRIC MANHOLE
EXIST	EXISTING
FES	FLARED END SECTION
FFE	FINISH FLOOR ELEVATION
FM	FORCE MAIN
GC	GRANITE CURB
GG	GAS GATE
GM	GAS METER
GR	GUARDRAIL
GW	GUY WIRE
HDPE	HIGH DENSITY POLYETHYLENE
HH	HAND HOLE
HORIZ	HORIZONTAL
HR	HANDRAIL
HYD	HYDRANT
INV	INVERT
I=	INVERT=
IP	IRON PIPE
LP	LIGHT POLE
LS	LANDSCAPED
LT	LEFT
MC	METAL COVER
MAX	MAXIMUM
MHW	MEAN HIGH WATER
MIN	MINIMUM
NO, #	NUMBER
NTS	NOT TO SCALE
OCS	OUTLET CONTROL STRUCTURE
OH	OVERHANG
P	POST
PB	PULL BOX
PERF	PERFORATED
PL	PLASTIC
PROP	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVI	POST VALVE INDICATOR
R=	RIM=
R&D	REMOVE & DISPOSE OF
R&S	REMOVE & SALVAGE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
(rec)	RECORD
RET	RETAINING
RT	RIGHT
SGC	SLOPED GRANITE CURB
SMH	SEWER MANHOLE
SHWT	SEASONAL HIGH WATER TABLE
SS	SANITARY SEWER
ST	STEAM
STA	STATION
SW	SIDEWALK
SWEL	SOLID WHITE EDGE LINE
TC	SOLID WHITE LANE LINE
TCB	TOP OF CURB
TEL	TRAFFIC CONTROL BOX
TL	TELEPHONE
TMH	TRAFFIC LIGHT
TRANS	TELEPHONE MANHOLE
TS	TRANSFORMER
TW	TOP OF SLOPE
TYP	TOP OF WALL
UP	TYPICAL
VC	UTILITY POLE
VERT	VITRIFIED CLAY
VGC	VERTICAL
W	VERTICAL GRANITE CURB
WC	WATER
WF	WYE CONNECTION
WG	WETLAND FLAG
WP	WATER GATE
WM	WROUGHT IRON PIPE
	WATER METER

LEGEND		
EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINE
---	---	RIGHT OF WAY
---	---	EASEMENT
---	---	BUILDING SETBACK
---	---	PARKING SETBACK
□ Δ ○	□ Δ ○	SURVEY MONUMENT
5+00	5+00	BASELINE
---	---	LIMIT OF DEVELOPMENT
▨	---	ROCK/LEDGE
---	---	EDGE OF GRAVEL
---	---	EDGE OF PAVEMENT
---	---	EDGE OF CONCRETE
---	---	SAWCUT
▬▬▬▬▬▬	▬▬▬▬▬▬	BUILDING
○	●	BOLLARD
+	+	SIGN
▬▬▬▬▬▬	▬▬▬▬▬▬	DOUBLE SIGN
⊙	⊙	TREE
~~~~~	~~~~~	TREELINE
-x-x-	-x-x-	CHAINLINK FENCE
-○-○-	-○-○-	FENCE
-□-□-	-□-□-	STOCKADE FENCE
-SF	-SF	SILT FENCE
→	→	DRAINAGE FLOW
>	>	SWALE
---98---	---98---	MINOR CONTOUR
---100---	---100---	MAJOR CONTOUR
SWL	SWL	SINGLE WHITE LINE
DYL	DYL	DOUBLE YELLOW LINE
SL	SL	STOP LINE
▬▬▬▬▬▬	▬▬▬▬▬▬	CROSSWALK
⊞	⊞	DETECTABLE WARNING PANEL
⊞ VAN	⊞ VAN	ACCESSIBLE PARKING
x 97.5	x 97.5	VAN-ACCESSIBLE PARKING
+	+	SPOT ELEVATION
⊞	⊞	BORING LOCATION
⊞	⊞	TEST PIT LOCATION
UD	UD	UNDER DRAIN
SD	▬▬▬▬▬▬	DRAIN
S	S	SEWER
OHW	OHW	OVERHEAD WIRE
W	W	WATER
FP	FP	FIRE PROTECTION
G	G	GAS
UE	UE	UNDERGROUND ELECTRIC
T	T	TELEPHONE
CATV	CATV	CABLE TV
T/D	T/D	TEL/DATA
⊞	⊞	CATCH BASIN
⊞	⊞	DOUBLE CATCH BASIN
⊞	⊞	DRAIN MANHOLE
⊞	⊞	PLUG OR CAP
○	○	CLEANOUT
⊞ WSO	⊞ WSO	SEWER MANHOLE
WV	WV	WATER SHUT-OFF
HYD	HYD	WATER VALVE & BOX
+	+	FIRE HYDRANT
+	+	THRUST BLOCK
⊞	⊞	WATER WELL
⊞	⊞	GAS GATE
⊞	⊞	GAS METER
⊞	⊞	LIGHT POLE
⊞	⊞	UTILITY POLE
⊞	⊞	GUY WIRE & ANCHOR
⊞	⊞	HAND HOLE
⊞	⊞	PULL BOX
⊞	⊞	INLET PROTECTION
⊞	⊞	TREE TO BE REMOVED
▨	▨	STABILIZED CONSTRUCTION ENTRANCE
▨	▨	STRUCTURE TO BE REMOVED
▨	▨	PAVEMENT TO BE REMOVED
▨	▨	BITUMINOUS CONCRETE PAVING
▨	▨	CONCRETE
▨	▨	EROSION CONTROL MATTING

STATE OF NEW HAMPSHIRE

MAHSA DESAI

No. 12194

LICENSED PROFESSIONAL ENGINEER

08/17/2020

DATE

REVISION

DESCRIPTION

REV.

Ironwood

Landscape Architecture + Planning

100 International Dr., Suite 200, Portsmouth, NH 03801

Phone: 603.431-2520 Fax: 603.431-8067 Web: www.ironwoodnham.com

Checked By

WDR

Drawn By

HEM

Designed By

MAD

Date:

AUGUST 10, 2020

Scale:

AS SHOWN

CITY OF MANCHESTER

DEPARTMENT OF PUBLIC WORKS

475 VALLEY STREET

MANCHESTER, NH 03103

PROJECT

SHEEHAN-BASQUIL PARK

RENOVATION - PHASE II

MANCHESTER, NH

CLIENT

NOTES, ABBREVIATIONS & LEGEND

C2

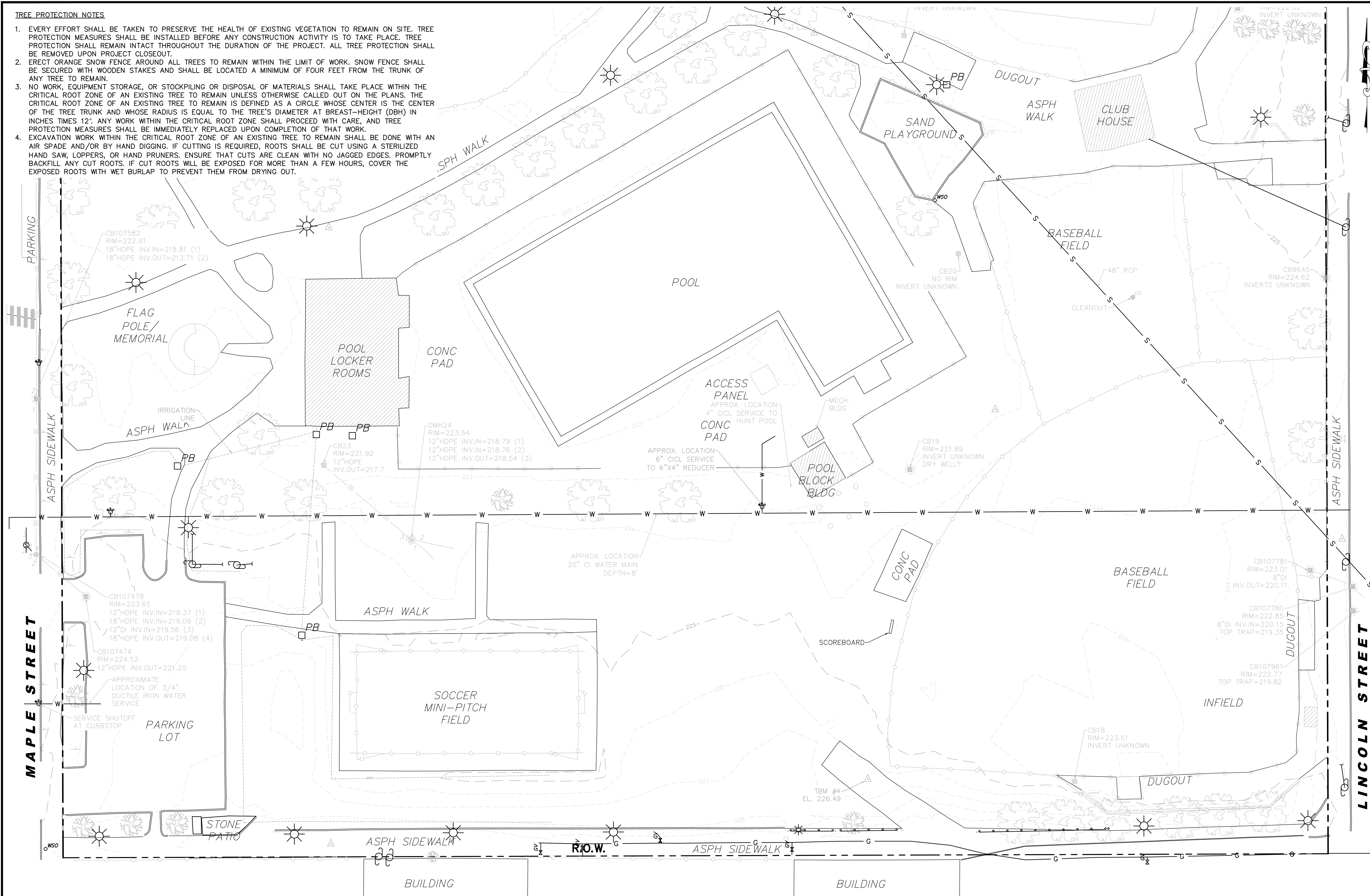
PROJECT NO. 111121

SHEET 2 OF 16



TREE PROTECTION NOTES

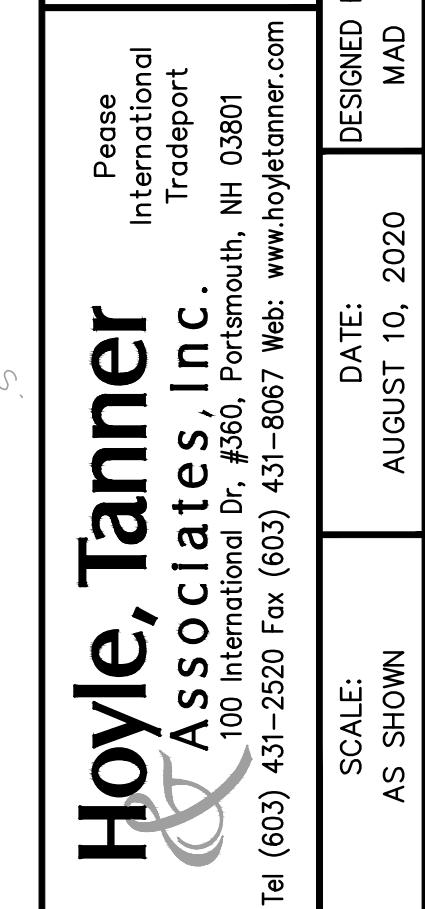
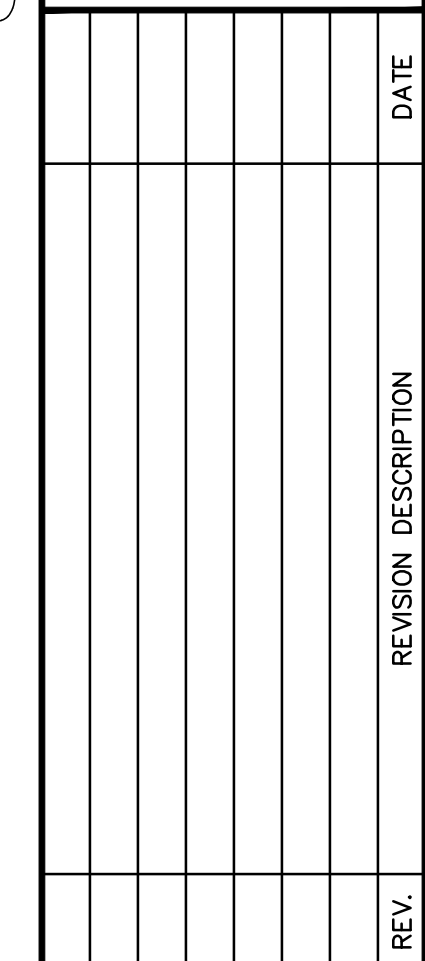
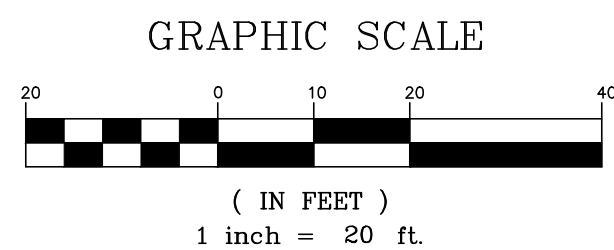
1. EVERY EFFORT SHALL BE TAKEN TO PRESERVE THE HEALTH OF EXISTING VEGETATION TO REMAIN ON SITE. TREE PROTECTION MEASURES SHALL BE INSTALLED BEFORE ANY CONSTRUCTION ACTIVITY IS TO TAKE PLACE. TREE PROTECTION SHALL REMAIN INTACT THROUGHOUT THE DURATION OF THE PROJECT. ALL TREE PROTECTION SHALL BE REMOVED UPON PROJECT CLOSEOUT.
2. ERECT ORANGE SNOW FENCE AROUND ALL TREES TO REMAIN WITHIN THE LIMIT OF WORK. SNOW FENCE SHALL BE SECURED WITH WOODEN STAKES AND SHALL BE LOCATED A MINIMUM OF FOUR FEET FROM THE TRUNK OF ANY TREE TO REMAIN.
3. NO WORK, EQUIPMENT STORAGE, OR STOCKPILING OR DISPOSAL OF MATERIALS SHALL TAKE PLACE WITHIN THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN UNLESS OTHERWISE CALLED OUT ON THE PLANS. THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN IS DEFINED AS A CIRCLE WHOSE CENTER IS THE CENTER OF THE TREE TRUNK AND WHOSE RADIUS IS EQUAL TO THE TREE'S DIAMETER AT BREAST-HEIGHT (DBH) IN INCHES TIMES 12'. ANY WORK WITHIN THE CRITICAL ROOT ZONE SHALL PROCEED WITH CARE, AND TREE PROTECTION MEASURES SHALL BE IMMEDIATELY REPLACED UPON COMPLETION OF THAT WORK.
4. EXCAVATION WORK WITHIN THE CRITICAL ROOT ZONE OF AN EXISTING TREE TO REMAIN SHALL BE DONE WITH AN AIR SPADE AND/OR BY HAND DIGGING. IF CUTTING IS REQUIRED, ROOTS SHALL BE CUT USING A STERILIZED HAND SAW, LOPPERS, OR HAND PRUNERS. ENSURE THAT CUTS ARE CLEAN WITH NO JAGGED EDGES. PROMPTLY BACKFILL ANY CUT ROOTS. IF CUT ROOTS WILL BE EXPOSED FOR MORE THAN A FEW HOURS, COVER THE EXPOSED ROOTS WITH WET BURLAP TO PREVENT THEM FROM DRYING OUT.



DATE	
REVISION DESCRIPTION	
REV.	
CHECKED BY	WRD
DRAWN BY	HEM
DESIGNED BY	MAD
DATE:	AUGUST 10, 2020
SCALE:	AS SHOWN
<b>Hoyle, Tanner &amp; Associates, Inc.</b> Pease International Tradeport 100 International Dr., #360, Portsmouth, NH 03801 Tel (603) 431-2520 Fax (603) 431-8067 Web: www.hoyletanner.com	
<b>Ironwood</b> Landscape Architecture + Planning 100 International Dr., #360, Portsmouth, NH 03801	
CLIENT	CITY OF MANCHESTER DEPARTMENT OF PUBLIC WORKS 475 VALLEY STREET MANCHESTER, NH 03103
PROJECT	SHEEHAN-BASQUILL PARK RENOVATION - PHASE II MANCHESTER, NH
EXISTING CONDITIONS PLAN	
<b>C3</b>	
PROJECT NO.	111121
SHEET	3 OF 16

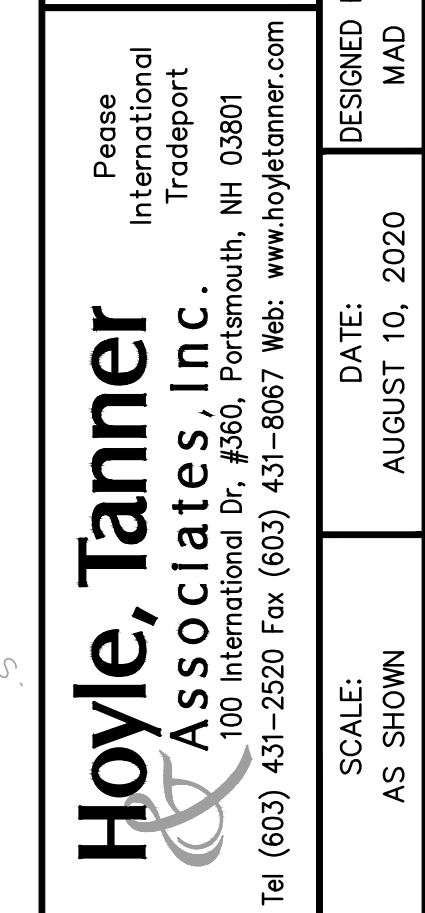
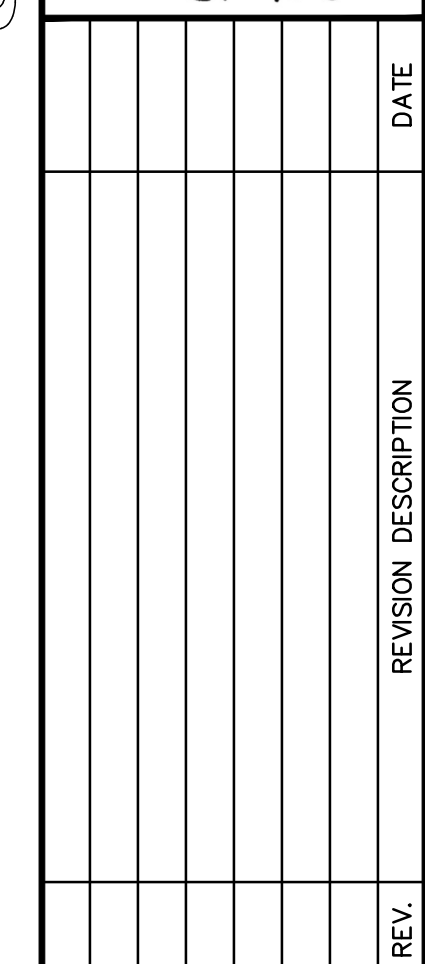
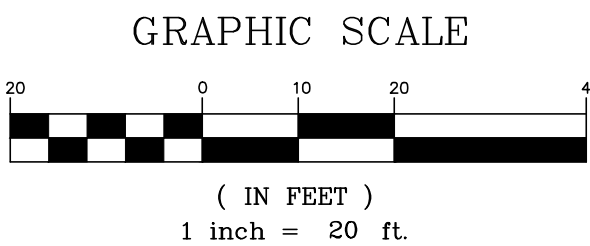


1. SEE LANDSCAPE PLANS (L1-L6) FOR SPLASHPAD, PLAYGROUND AND AMENITY LOCATIONS AND INSTALLATION.
2. ALL VERTICAL GRANITE CURBING (VGC) TO BE REMOVED SHALL BE SALVAGED BACK TO THE CITY. REUSE VGC IN GOOD CONDITION IN THE PLAYGROUND AS SPECIFIED ON THE LANDSCAPE PLANS (L1-L6).





1. SEE LANDSCAPE PLANS (L1-L6) FOR SPLASHPAD, PLAYGROUND AND AMENITY LOCATIONS AND INSTALLATION.
2. LOCATION OF EXISTING 20-INCH CAST IRON WATER MAIN IS BASED ON GIS INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE. CONTRACTOR TO TAKE EXTREME CARE WHEN WORKING IN THE VICINITY OF THE EXISTING WATER MAIN.






1. CONNECT NEW 3" DI WATER SERVICE FROM EX. 4" WATER IN BASEMENT OF MECHANICAL BUILDING, AFTER METER & RPZ BACKFLOW PREVENTER (SEE PHOTO 1).
2. NEW 3" DI WATER SERVICE SHALL BE INSTALLED FROM CONNECTION OF EXISTING WATER IN MECH. BUILDING BASEMENT TO EX. 6" SOUTH FOUNDATION WALL PENETRATION TO ENTER PIT IN THE POOL BUILDING (SEE PHOTOS 2 AND 3).
3. POOL BUILDING AND MECH. BUILDING ARE NOT CONNECTED. EXISTING CONDUIT IS ASSUMED TO PASS THROUGH TWO FOUNDATION WALLS TO ENTER PIT. FOUNDATION WALLS ARE ASSUMED TO BE SEPARATED BY APPROX. 18". NEW WATER SERVICE SHALL BE INSULATED.
4. CONNECT NEW 3" DI WATER SERVICE TO NEW SPLASH PAD MANIFOLD TO BE MOUNTED INSIDE SOUTH WALL OF POOL BUILDING.
5. CUT HOLE IN CONCRETE FLOOR AND ADJACENT SOUTH FOUNDATION WALL ON THE POOL BUILDING AND INSTALL WATER LINES FROM MANIFOLD TO SPLASH PAD PER WATER TRENCH DETAIL AND SPLASH PAD PLANS
6. CONTRACTOR SHALL PACK THE EXTERIOR OF THE PENETRATIONS WITH NONSHRINK, NONMETALLIC WATERTIGHT GROUT TO ENSURE WATERTIGHT SEAL. INTERIOR WALL AND FLOOR PENETRATIONS SHALL BE SEALED WITH LOCTITE FOAM, OR APPROVED EQUAL.
7. ACCESS TO THE POOL BUILDING AND MECH. BUILDING BASEMENT WILL BE PROVIDED DURING THE PRE-BID CONFERENCE.

1. INSTALL NEW ELECTRIC SERVICE FROM EX. PANEL IN BASEMENT OF POOL BUILDING ANNEX (SEE PHOTO 4).
2. NEW ELECTRIC SERVICE SHALL BE INSTALLED FROM CONNECTION TO EXISTING PANEL IN MECH. BUILDING BASEMENT TO EX. FOUNDATION WALL PENETRATION TO ENTER PIT IN THE POOL BUILDING (SEE PHOTOS 2 AND 3).
3. POOL BUILDING AND MECH. BUILDING ARE NOT CONNECTED. EXISTING CONDUIT IS ASSUMED TO PASS THROUGH TWO FOUNDATION WALLS TO ENTER PIT. FOUNDATION WALLS ARE ASSUMED TO BE SEPARATED BY APPROX. 18".
4. CUT HOLE IN CONCRETE FLOOR AND ADJACENT SOUTH FOUNDATION WALL ON THE POOL BUILDING AND INSTALL ELECTRIC SERVICE TO SPLASH PAD PER ELECTRIC TRENCH DETAIL AND SPLASH PAD PLANS
5. CONTRACTOR SHALL PACK THE EXTERIOR OF THE PENETRATIONS WITH NONSHRINK, NONMETALLIC WATERTIGHT GROUT TO ENSURE WATERTIGHT SEAL. INTERIOR WALL AND FLOOR PENETRATIONS SHALL BE SEALED WITH LOCTITE FOAM, OR APPROVED EQUAL.
6. ACCESS TO THE POOL BUILDING AND MECH. BUILDING BASEMENT WILL BE PROVIDED DURING THE PRE-BID CONFERENCE.

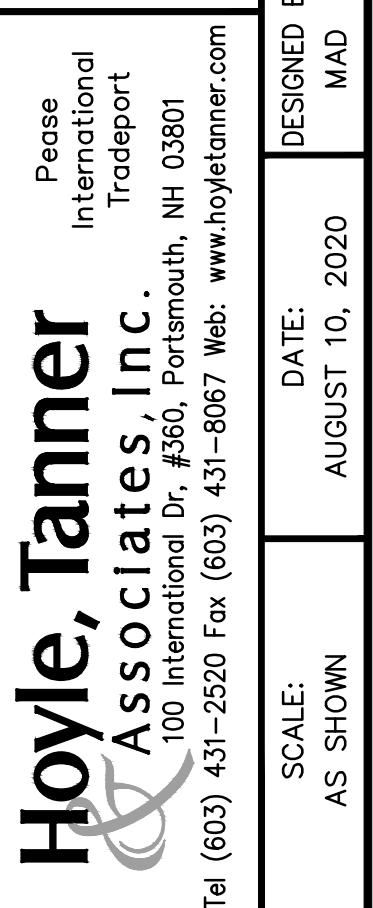
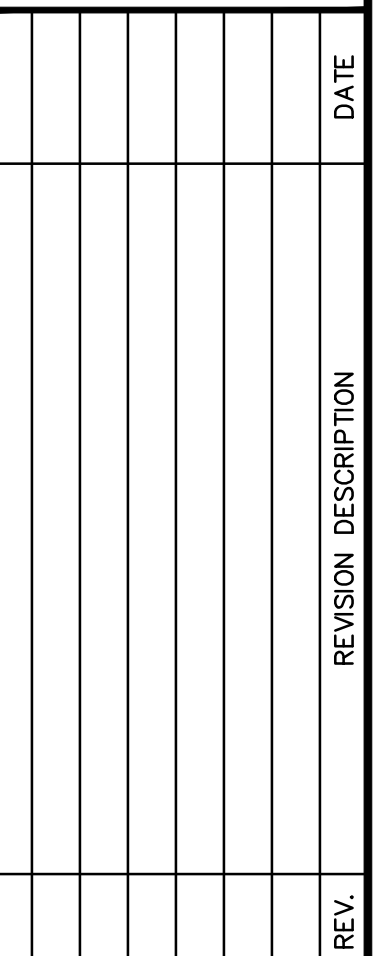


1. SEE LANDSCAPE PLANS (L1-L6) FOR SPLASH PAD, PLAYGROUND AND AMENITY LOCATIONS AND INSTALLATION.
2. LOCATION OF EXISTING 20-INCH CAST IRON WATER MAIN IS BASED ON GIS INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE. CONTRACTOR TO TAKE EXTREME CARE WHEN WORKING IN THE VICINITY OF THE EXISTING WATER MAIN.



Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	C2	6	Lithonia Lighting	RADPT_P2 40K PATH	RADEAN Post-Top with Pathway distribution, mounted at 14ft (12ft pole)	LED	1	RADPT_P2_40K_PATH.ies	4009	0.9	38.0107

( IN FEET )  
1 inch = 20 ft.



CITY OF MANCHESTER  
DEPARTMENT OF PUBLIC WORKS  
475 VALLEY STREET  
MANCHESTER, NH 03103

PROJECT

SHEEHAN-BASQUIL PARK  
RENOVATION - PHASE II  
MANCHESTER, NH

## SITE AND UTILITIES PLAN - 1

## C6

PROJECT NO. 111121

SHEET 6 OF 16



EROSION CONTROL NOTES:

A. GENERAL NOTES

1. DURING CONSTRUCTION, AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND (5 ACRES MAXIMUM) SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO A MAXIMUM OF 72 HOURS BEFORE APPLYING TEMPORARY OR PERMANENT EROSION CONTROL MEASURES. CONFINED PERIOD OF DISTURBED AND UNSTABILIZED SOILS TO A MAXIMUM OF 45 DAYS. ALL DITCHES AND SWALES ARE REQUIRED TO BE STABILIZED PRIOR TO DIRECT RECEIPT OF ANY FLOW.
2. ALL ROADWAYS AND PARKING LOTS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE LOAMED AND SEEDED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.
3. PERIMETER CONTROLS SHALL BE INSTALLED PRIOR TO EARTH MOVING OPERATIONS. INSTALL SILT FENCE WHERE SHOWN AND AROUND ALL EXISTING DRAINAGE STRUCTURES WITHIN THE PROJECT AREA. DO NOT REMOVE SILT BARRIERS UNTIL DISTURBED AREAS ARE FULLY COVERED WITH TURF OR OTHER APPLICABLE SURFACE MATERIAL. ALL PONDS ARE TO BE CONSTRUCTED AND STABILIZED PRIOR TO ANY OTHER DRAINAGE SYSTEM WORK, INCLUDING DITCH AND SWALE EXCAVATION. PONDS AND SWALES SHOULD BE INSTALLED BEFORE ROUGH GRADING THE SITE.
4. EROSION AND SEDIMENT CONTROL PRACTICES INCLUDE THE USE OF THE FOLLOWING: SILT FENCE BARRIERS, PERMANENT DETENTION/SEDIMENTATION POND BASIN, GRASS AND/OR ROCK LINED SWALES AND DIVERSIONS WITH LEVEL SPREADERS. ALL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS CONTAINED IN THE "NH STORMWATER MANUAL", VOLUME 3, DECEMBER 2008.
5. CONSTRUCTION AREAS SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- a. BASE COURSE GRAVELS HAVE BEEN INSTALLED IN AREAS TO BE PAVED.
  - b. A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED.
  - c. A MINIMUM OF 3" OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED.
  - d. OR, EROSION CONTROL BLANKETS HAVE BEEN PROPERLY INSTALLED.

B. VEGETATIVE MEASURES

1. TOPSOIL STOCKPILING: TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE ON CRITICAL AREAS AND ALL OTHER AREAS TO BE SEEDED. THE STOCKPILE WILL NOT BE COMPACTED AND SHALL BE STABILIZED AGAINST EROSION WITH TEMPORARY SEEDING.
2. TEMPORARY SEEDING:
- a. BEDDING – REMOVE STONES AND TRASH THAT WILL INTERFERE WITH SEEDING THE AREA. WHERE FEASIBLE, TILL THE SOIL TO A DEPTH OF ABOUT 3" TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
  - b. FERTILIZER – SLOW RELEASE NITROGEN FERTILIZER SHOULD BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. A 10–0–10 MIX OF FERTILIZER SHOULD BE APPLIED AT A RATE OF 300 POUNDS PER ACRE (OR 7 POUNDS PER 1,000 S.F.).
  - c. SEED MIXTURE – USE ANY OF THE FOLLOWING IN UPLAND AREAS:
- | SPECIES            | PER ACRE | PER 1,000S.F. | DATES                            | DEPTH   |
|--------------------|----------|---------------|----------------------------------|---------|
| WINTER RYE         | 112 LBS. | 2.5 LBS.      | 8/15–9/5                         | 1 IN.   |
| OATS               | 80 LBS.  | 2.0 LBS.      | SPRING–5/15                      | 1 IN.   |
| ANNUAL RYEGRASS    | 40 LBS.  | 1.0 LBS.      | 4/15–9/15 WITH MULCH             | .25 IN. |
| PERENNIAL RYEGRASS | 30 LBS.  | 0.7 LBS.      | 4/1–6/1 AND/OR 8/15–9/15 W/MULCH | .5 IN.  |
- d. MULCHING – WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, THE SEEDED AREA SHALL BE MULCHED TO FACILITATE GERMINATION. MULCH IN THE FORM OF STRAW SHOULD BE APPLIED AT A RATE OF 70 TO 90 LBS. PER 1,000 S.F.
3. PERMANENT SEEDING:
- a. BEDDING – STONES LARGER THAN 4", TRASH, ROOTS, AND OTHER DEBRIS THAT WILL INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHOULD BE REMOVED. WHERE FEASIBLE, THE SOIL SHOULD BE TILLED TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL.
  - b. FERTILIZER – LIME AND SLOW RELEASE NITROGEN FERTILIZER SHOULD BE APPLIED EVENLY OVER THE AREA PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHOULD BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM AMOUNTS SHOULD BE APPLIED:

AGRICULTURAL LIMESTONE @ 100 LBS. PER 1,000 S.F.  
10–0–20 FERTILIZER @ 12 LBS. PER 1,000 S.F.

c. PERMANENT SEEDING MIXTURES (RECOMMENDED)

SPECIES	PER ACRE	PER 1,000S.F.	USE
KENTUCKY BLUEGRASS	50 LBS.	1.15 LBS.	LOAM AREAS
CREeping RED FESQUE	50 LBS.	1.15 LBS.	(NON-SLOPE WORK)
TOTAL	100 LBS.	2.30 LBS.	

SPECIES	PER ACRE	PER 1,000S.F.	USE
TALL FESQUE	20 LBS.	.45 LBS.	ALL SLOPE
CREeping RED FESQUE	20 LBS.	.45 LBS.	WORK
BIRDSFOOT TREFOIL	8 LBS.	.20 LBS.	
TOTAL	48 LBS.	1.10 LBS.	

SPECIES	PER ACRE	PER 1,000S.F.	USE
CREeping BENT GRASS	35 LBS.	.80 LBS.	TREATMENT
RED TOP	35 LBS.	.80 LBS.	SWALES
TALL FESQUE	90 LBS.	2.00 LBS.	
TOTAL	160 LBS.	3.60 LBS.	

- d. MULCHING – MULCH SHOULD BE USED ON HIGHLY ERODIBLE SOILS, ON CRITICALLY ERODING AREAS, AND ON AREAS WHERE CONSERVATION OF MOISTURE WILL FACILITATE PLANT ESTABLISHMENT.
- | TYPE                            | RATE PER 1,000S.F.                 | USE AND COMMENTS                                           |
|---------------------------------|------------------------------------|------------------------------------------------------------|
| STRAW                           | 70 TO 90 LBS.                      | MUST BE DRY AND FREE FROM MOLD. MAY BE USED WITH PLANTINGS |
| WOOD CHIPS OR BARK MULCH        | 460 TO 920 LBS.                    | USED MOSTLY WITH TREES AND SHRUB PLANTINGS                 |
| JUTE AND FIBROUS MATTING        | AS PER MANUFACTURER SPECIFICATIONS | USED IN SLOPE AREAS, WATER COURSES AND OTHER AREAS         |
| CRUSHED STONE 1/4" TO 1/2" DIA. | SPREAD MORE THAN 2" THICK          | EFFECTIVE IN CONTROLLING WIND AND WATER EROSION.           |
- e. SODDING – SODDING IS DONE WHERE IT IS DESIRABLE TO RAPIDLY ESTABLISH COVER ON A DISTURBED AREA. SODDING AN AREA MAY BE SUBSTITUTED FOR PERMANENT SEEDING PROCEDURES ANYWHERE ON SITE. BED PREPARATION, FERTILIZING, AND PLACEMENT OF SOD SHALL BE PERFORMED ACCORDING TO THE S.C.S. HANDBOOK.

C. STRUCTURAL MEASURES

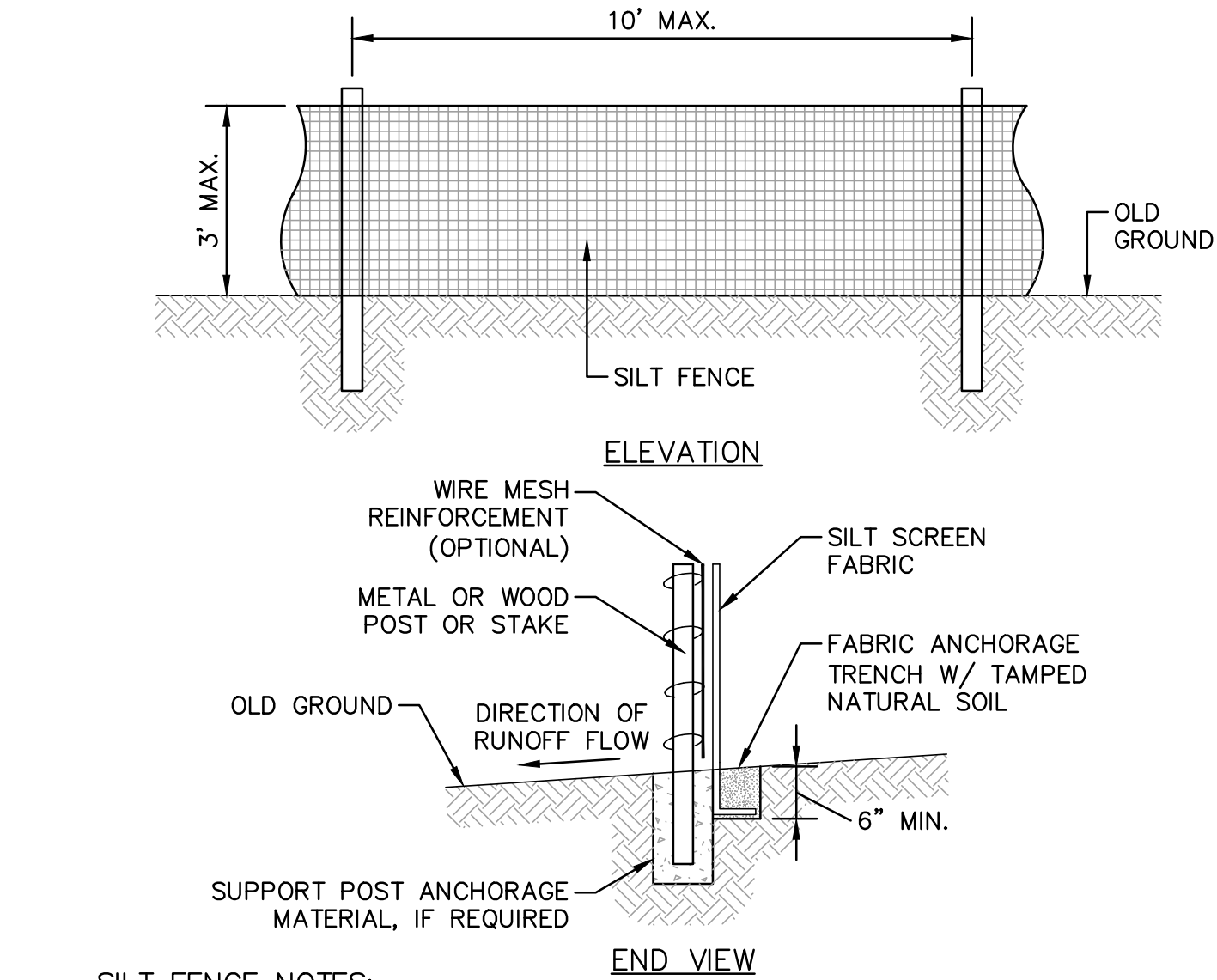
1. STRAW BALE BARRIERS/SILT SCREEN FENCES: STRAW BALE BARRIERS AND/OR SILT SCREEN FENCES ARE TO BE INSTALLED IN THE AREAS SHOWN ON THE PLAN. THEY ARE INTENDED PRIMARILY TO INTERCEPT AND FILTER SMALL VOLUMES OF "SHEET FLOWING" RUNOFF, OR AS SEDIMENT TRAPS IN SMALL SWALES. STRAW BALES HAVE A USEFUL LIFE OF 3 MONTHS WHEN WET, AND THEREFORE, MUST BE INSPECTED AND REPAIRED OR REPLACED PERIODICALLY. SILT SCREEN FENCES WILL FUNCTION 6 MONTHS OR LONGER IF KEPT FREE OF SEDIMENT ACCUMULATIONS (SEE DETAILS FOR ADDITIONAL INFORMATION).
2. SWALES: TEMPORARY AND/OR PERMANENT SWALES ARE TO BE INSTALLED AS SHOWN ON THE PLAN. SWALES ARE USED TO CONVERT SHEET FLOW TO CHANNEL FLOW AND CONVEY THE RUNOFF TO A PERMANENT CHANNEL, STORM DRAIN, OR DETENTION/SEDIMENT STRUCTURE. SWALES ARE INTENDED TO INTERCEPT RUNOFF AND DIVERT IT FROM AN EXPOSED NEWLY SEEDED SLOPE TOWARD AN ACCEPTABLE OUTLET OR TO REDUCE THE VELOCITY OF RUNOFF FLOWING DOWN FROM A DRAINAGE AREA.
3. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED OF 3 INCH DIAMETER MIN. STONE ACROSS THE FULL WIDTH OF THE VEHICLE INGRESS EGRESS AREA. THE STONE PAD SHOULD BE AT LEAST 50 FEET LONG, 25 FEET WIDE AND AT LEAST 6 INCHES THICK. A 3–6" TALL BERM SHALL BE CONSTRUCTED ACROSS THE ENTRANCE TO THE SITE. ADDITIONAL STONE MAY HAVE TO BE ADDED PERIODICALLY TO MAINTAIN THE PROPER FUNCTIONING OF THE PAD.
4. CATCH BASIN SEDIMENT FILTER: STONE CATCH BASIN SEDIMENT FILTERS ARE TO BE INSTALLED IN THE AREAS SHOWN ON THE PLAN. THEY ARE INTENDED PRIMARILY FILTER SMALL VOLUMES OF "SHEET FLOWING" RUNOFF. CATCH BASIN SEDIMENT FILTERS SHALL BE CONSTRUCTED OF FILTER FABRIC BEING INSTALLED OVER INLET GRATE, AND 3/4" WASHED CRUSHED STONE, 12 INCHES THICK. CATCH BASIN SEDIMENT FILTERS WILL LAST LONGER IF KEPT FREE OF SEDIMENT ACCUMULATIONS (SEE DETAILS FOR ADDITIONAL INFORMATION).
5. SEDIMENT TRAPS SHALL BE CONSTRUCTED AS NEEDED ON SITE.

D. MAINTENANCE

1. DURING THE PERIOD OF CONSTRUCTION AND/OR UNTIL LONG TERM VEGETATION IS ESTABLISHED:
- a. SEEDED AREAS WILL BE FERTILIZED AND WILL BE SEEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT.
  - b. ADDITIONAL STONE MAY HAVE TO BE ADDED TO THE CONSTRUCTION ENTRANCE, ROCK LINED SWALES, ETC., PERIODICALLY TO MAINTAIN THE PROPER FUNCTIONING OF THE EROSION CONTROL STRUCTURE.
  - c. ALL DIVERSION CHANNELS AND SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.
  - d. ALL SILT SCREEN FENCES WILL BE CHECKED WEEKLY. NECESSARY REPAIRS WILL BE MADE TO CORRECT UNDERMINING OR DETERIORATION OF THE BARRIER.
  - e. EROSION CONTROL MEASURES TO BE INSPECTED WEEKLY AND AFTER EVERY 0.5" OF RAINFALL.
2. SEE CONSTRUCTION DETAILS FOR ADDITIONAL NOTES AND EROSION CONTROL MAINTENANCE MEASURES.

E. WINTER CONSTRUCTION

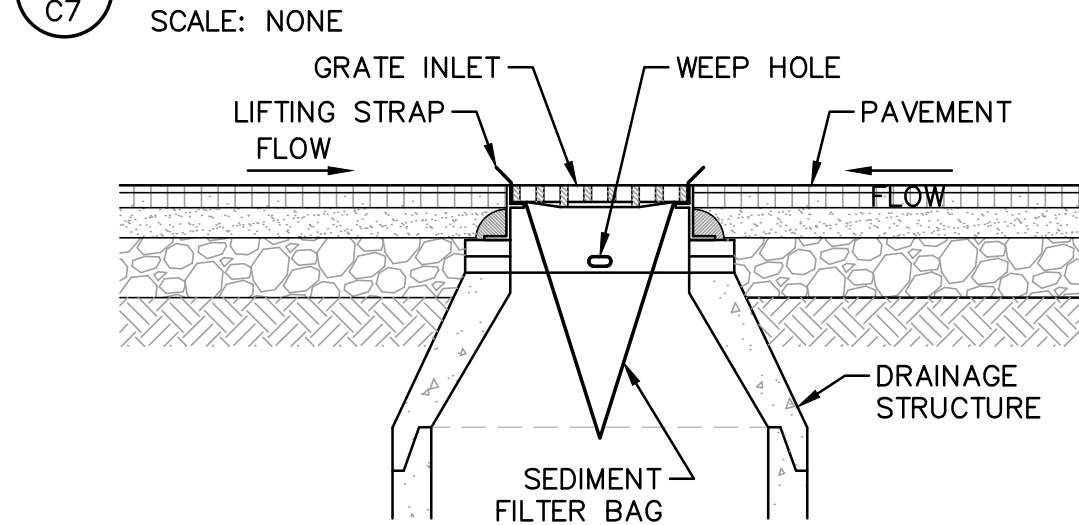
1. ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.
2. ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.
3. AFTER OCTOBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL.



SILT FENCE NOTES:

- SPACING OF FENCE POSTS NOT TO EXCEED 10–0".
- SILT FENCE SHALL BE INSTALLED BEFORE ANY EARTH REMOVAL OR EXCAVATION TAKES PLACE.
- FILTER FABRIC TO BE FASTENED SECURELY TO POSTS WITH WIRE TIES OR STAPLES AT TOP, MIDPOINT AND BOTTOM.
- OVERLAP BY 6". FOLD AND STAPLE ADJOINING SECTIONS OF FILTER FABRIC.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND THE MATERIAL REMOVED WHEN "BULGES" DEVELOP. DO NOT DEPOSIT THE MATERIAL NEAR WETLANDS OR WATERCOURSES.
- FILTER FABRIC SHALL BE ENTRENCHED 6" MINIMUM BELOW EXISTING OR FINISHED GRADE.

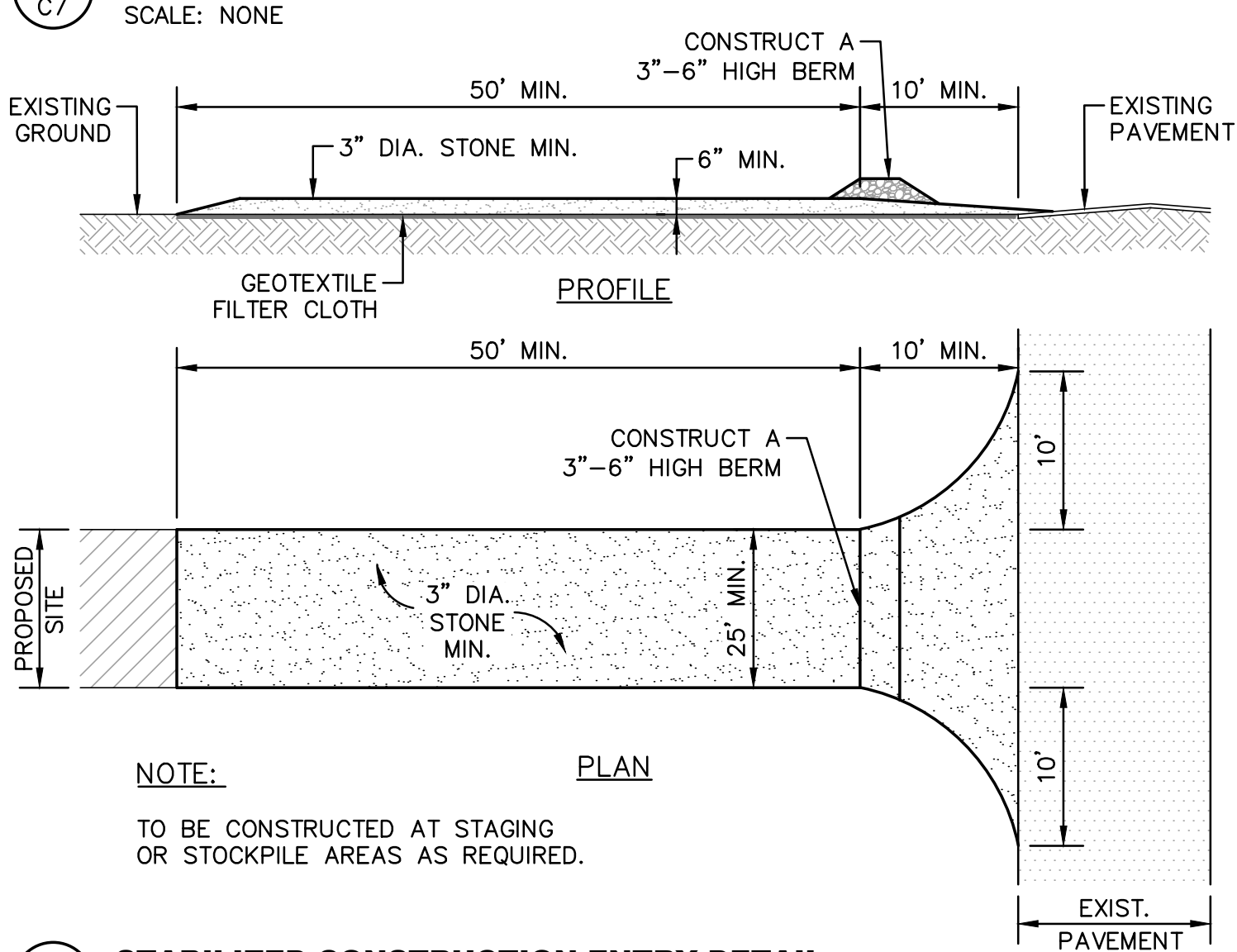
1 C7 SILT FENCE EROSION CONTROL DETAIL



INLET PROTECTION NOTES:

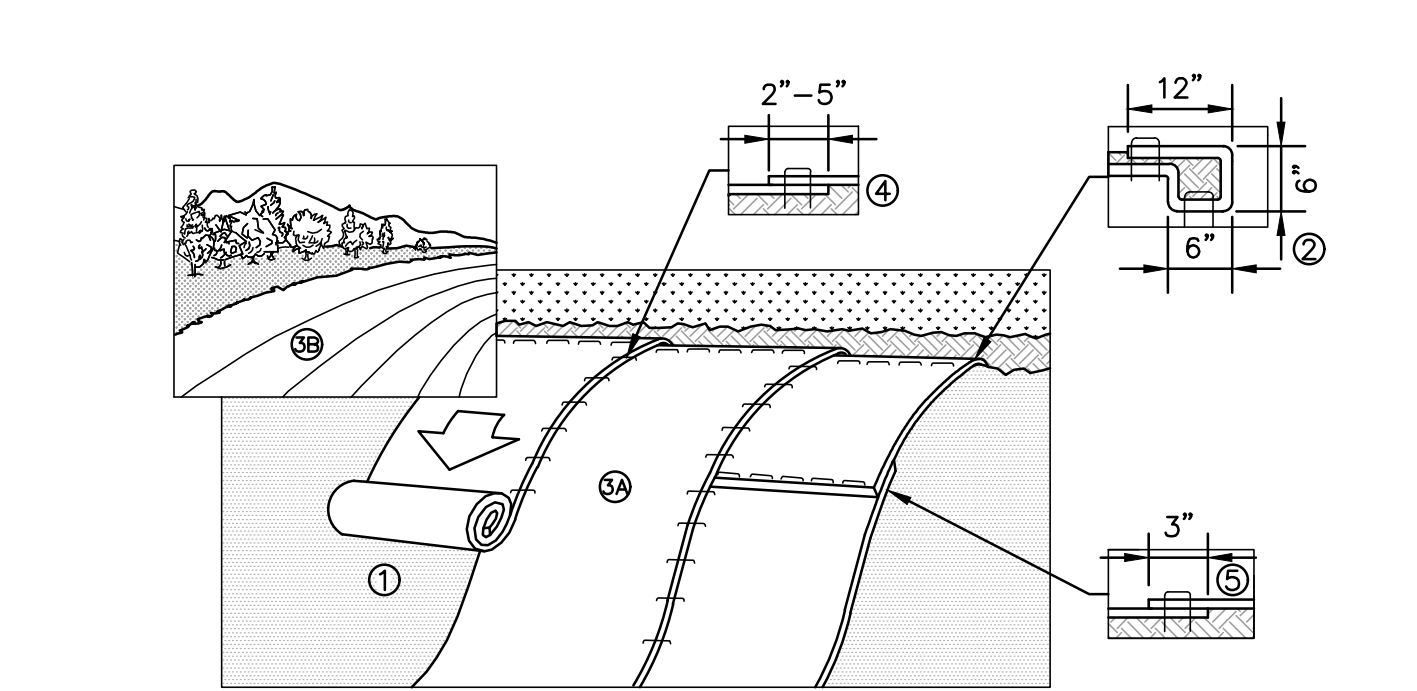
- REMOVE DRAINAGE INLET GRATE AND PLACE SEDIMENT FILTER BAG AROUND THE FRAME, REPLACE GRATE AND SEDIMENT FILTER BAG IN POSITION OR FOLLOW MANUFACTURER'S RECOMMENDATIONS. LIFTING STRAPS SHALL BE EXPOSED AND READY FOR MAINTENANCE PROCEDURES.
- INSPECT SEDIMENT FILTER BAG WEEKLY AND AFTER EVERY RAINFALL EVENT.
- REPLACE, CLEAN OR REMOVE SEDIMENT FILTER BAG AS DIRECTED.
- INLET PROTECTION SHALL BE PROVIDED FOR ALL CATCHBASINS THAT WILL RECEIVE RUNOFF FROM DISTURBED AREAS.

3 C7 INLET PROTECTION DETAIL

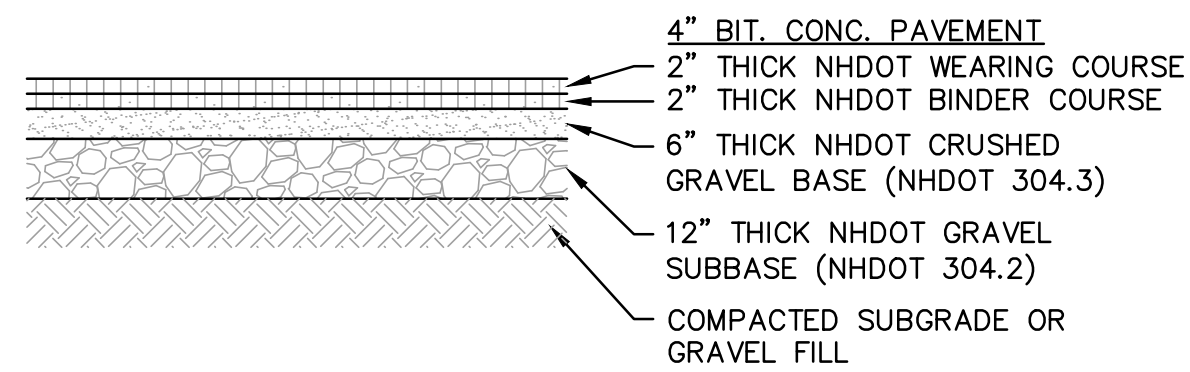


4 C7 STABILIZED CONSTRUCTION ENTRY DETAIL

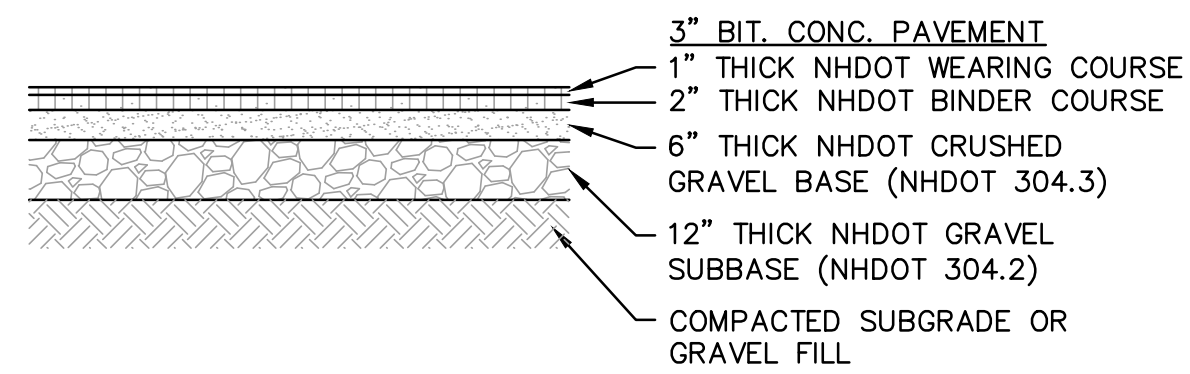
SCALE: NONE



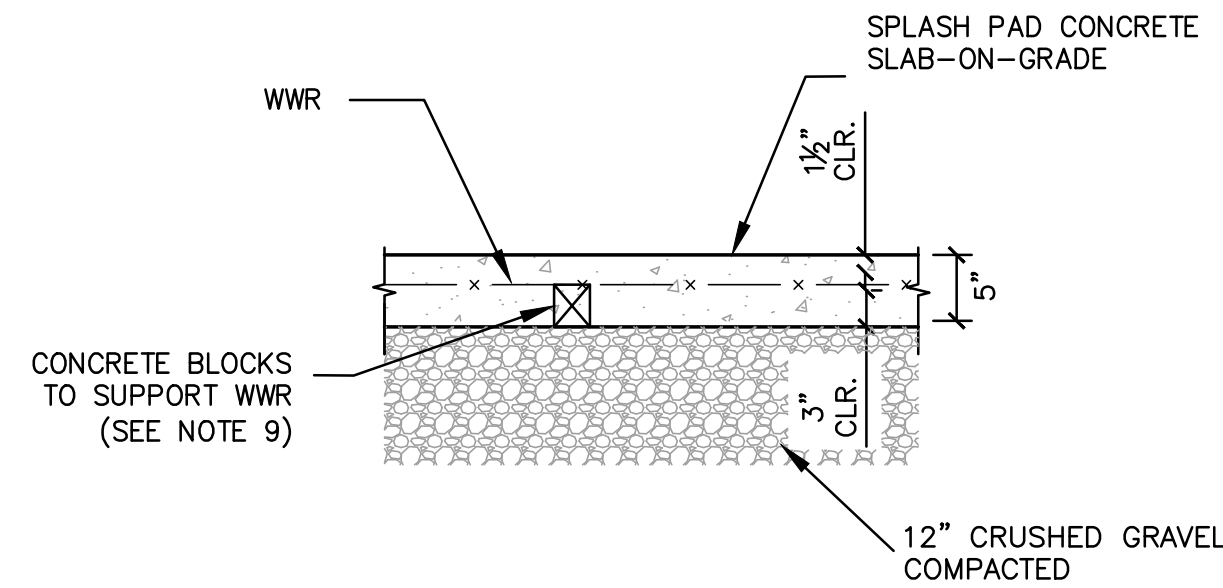




BITUMINOUS ASPHALT ACCESS DRIVE SECTION

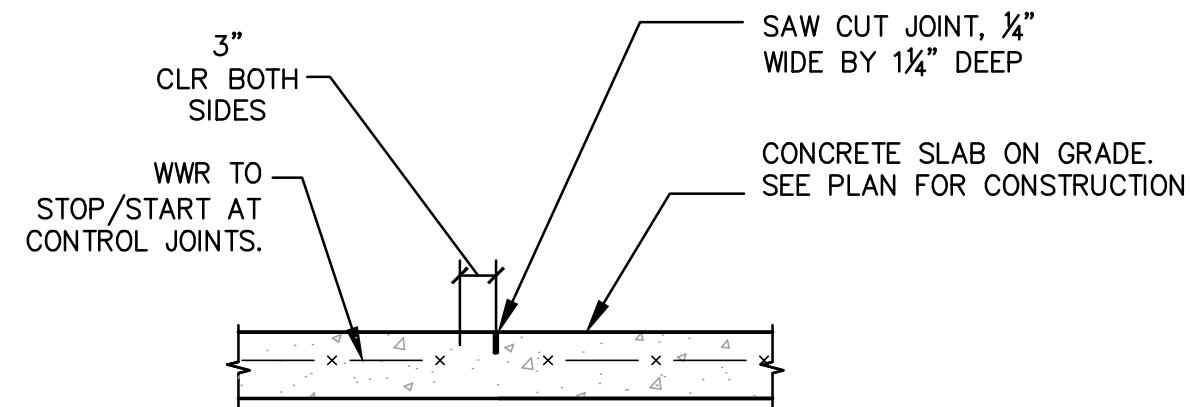


BITUMINOUS ASPHALT WALKWAY SECTION



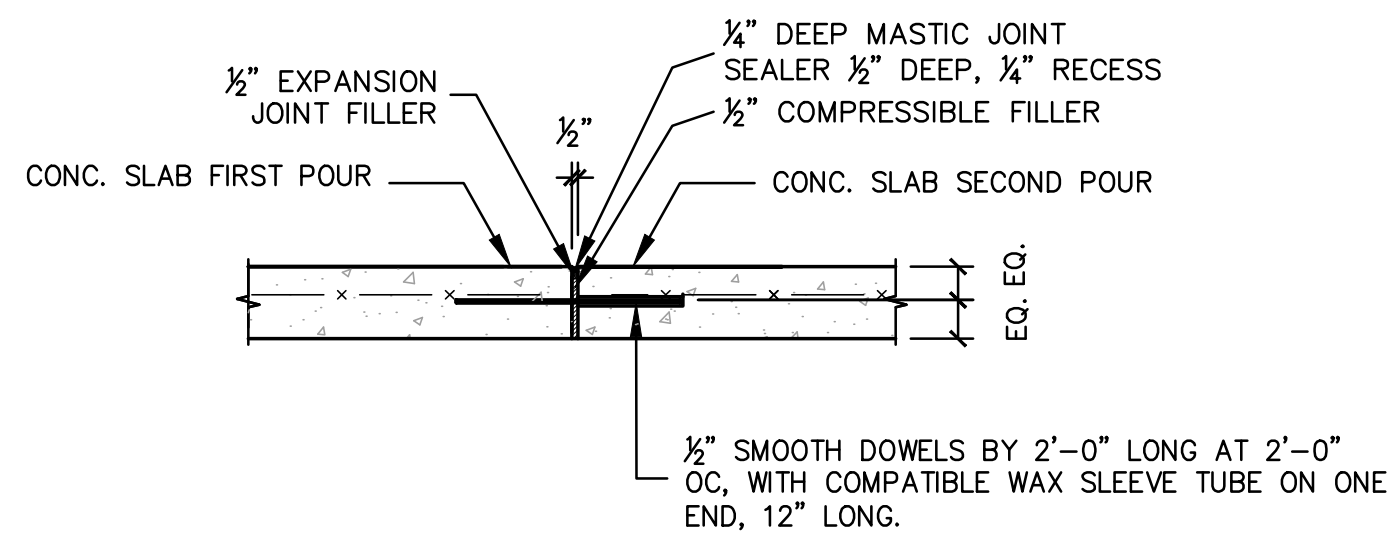
NOTES:

1. CRUSHED GRAVEL TO MEET NHDOT 304.3
2. CONCRETE TO BE 5,000 PSI.
3. REINFORCE WITH WWF W4XW4-4X4.
4. CONCRETE SHALL HAVE MEDIUM BRUSH FINISH.



NOTES:

1. SEE PLAN FOR CONTROL JOINT LAYOUT.



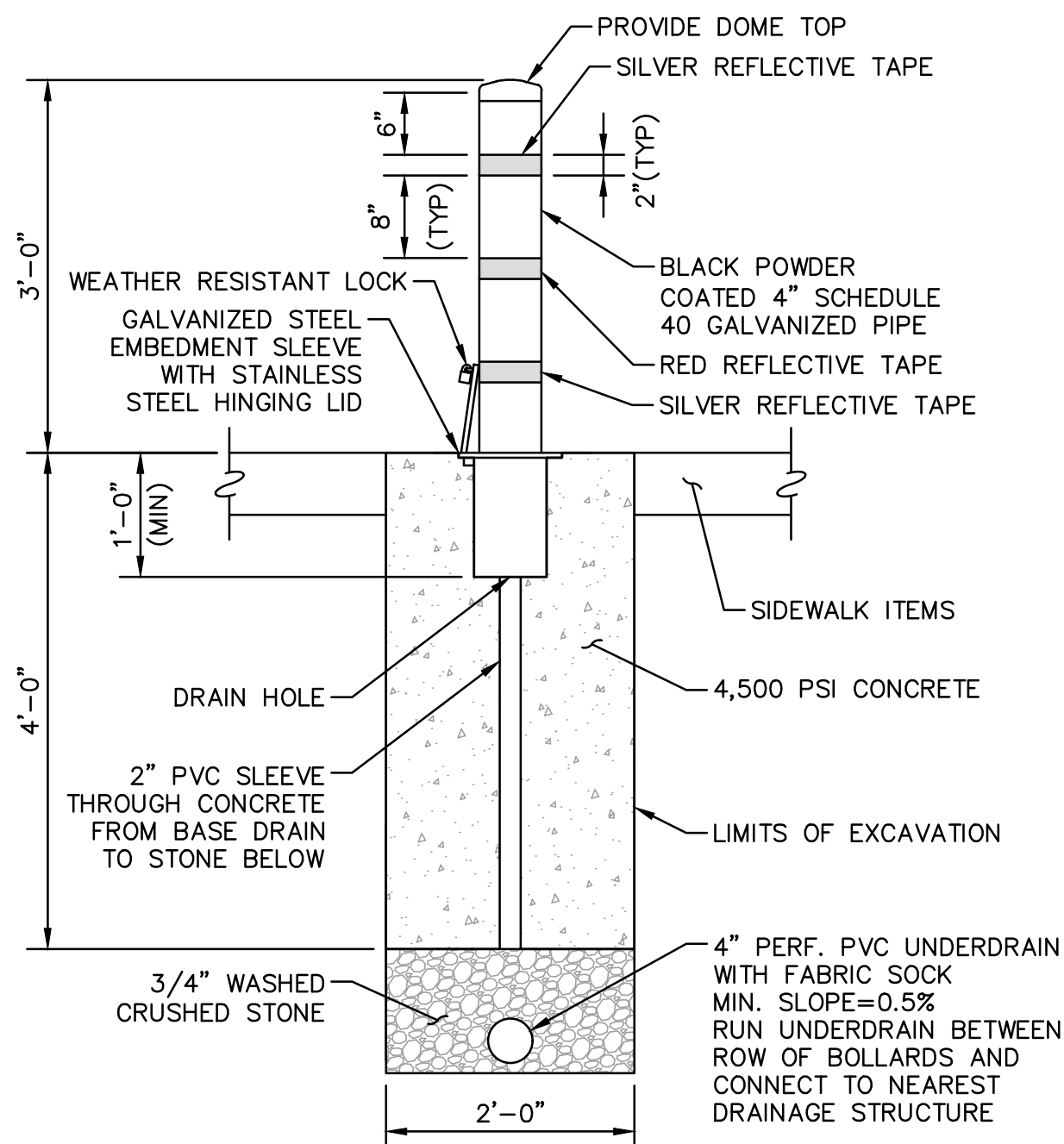
NOTES:

1. ALLOW 72 HR. MIN. BETWEEN ADJACENT SLAB POUR.



## TYPICAL PAVEMENT SECTION

SCALE: NONE



## REMOVABLE BOLLARD DETAIL

SCALE: NONE

FLATWORK CONCRETE NOTES:

1. ALL CONCRETE WORK SHALL BE IN COMPLIANCE WITH THE 2009 IBC CHAPTER 19, "CONCRETE" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND COMMENTARY" AND PROJECT SPECIFICATIONS.
  2. NEW CONCRETE STRENGTHS
 

LOCATION	WEIGHT (28-DAY MIN)	COMP. STRENGTH	W/C RATIO	AIR
			CONTENT	
SLAB-ON-GRADES	NWC	5,000 PSI	0.45	6% ±1.5%
FLOW FILL		200 PSI	3.0 TO 4.0	15% TO 30%
  3. MIX DESIGNS FOR ALL CONCRETE WILL BE SUBMITTED WITH SUPPORTING COMPRESSIVE TEST DATA PLUS ALL MATERIALS IN ACCORDANCE WITH ACI STANDARDS TO ENGINEER A MINIMUM 7 DAYS PRIOR TO THE FIRST CONCRETE PLACEMENT AND REQUIRE APPROVAL OF THE ENGINEER. CONCRETE TO HAVE A 4" SLUMP (PRIOR TO WATER REDUCING ADMIXTURES)
  4. MATERIALS
 

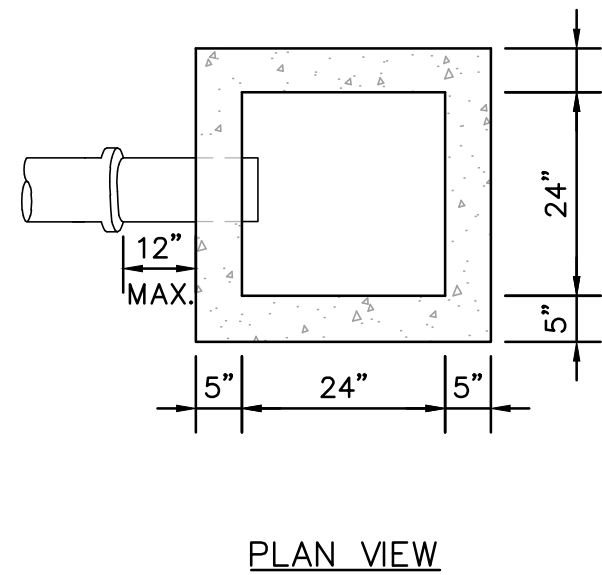
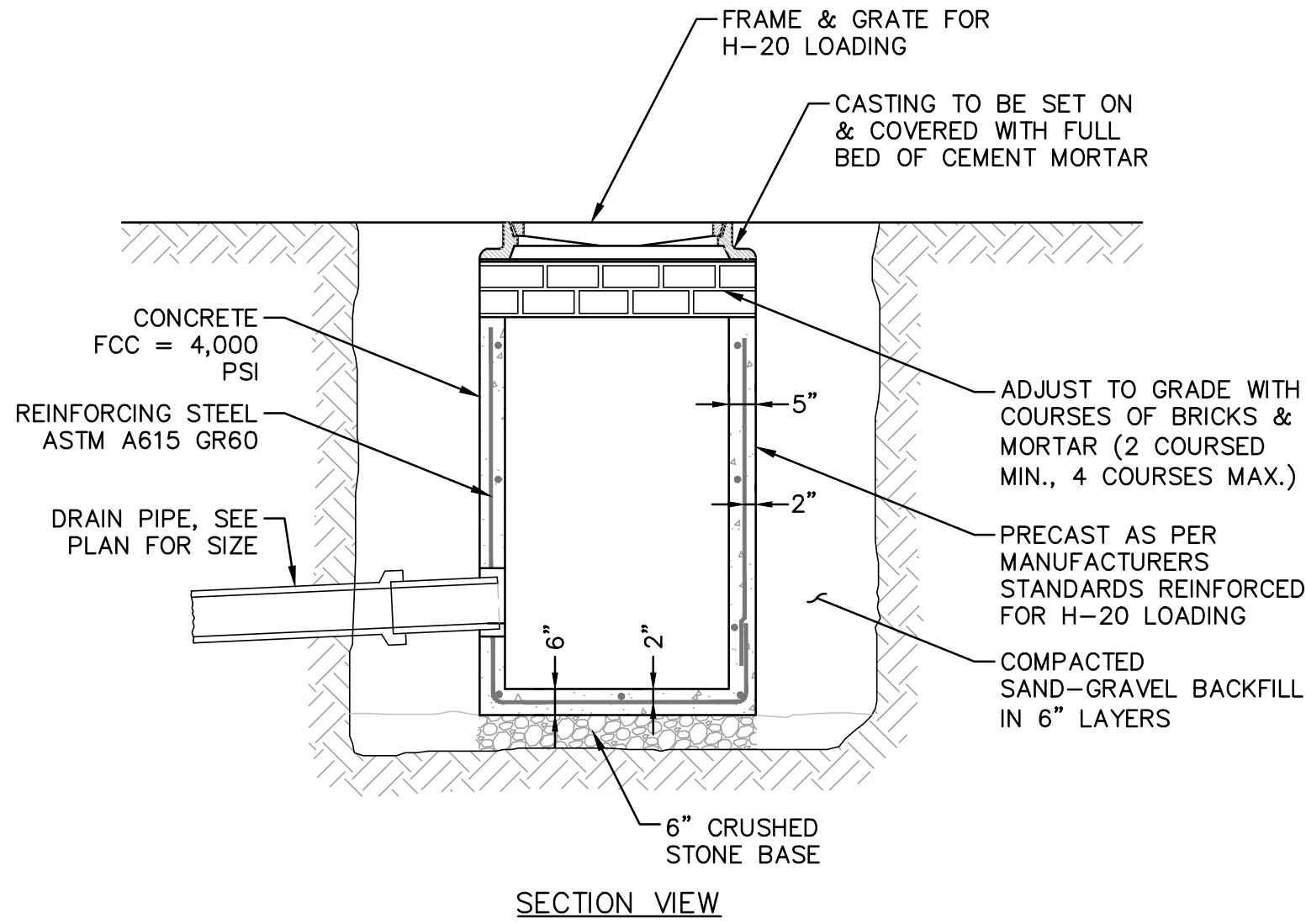
CEMENT	ASTM C-150, TYPE I OR III, UON
CEMENT WHITE (S-2)	ASTM C-150, TYPE I OR III, UON
COARSE AGGREGATE (SLABS)	ASTM C-33, MAXIMUM 1"
SAND	FREE FROM SILICA
WATER	POTABLE
ADMIXTURES - WATER REDUCER	ASTM C494 TYPE A
ADMIXTURES - WATER REDUCING/HIGH-RANGE	ASTM C494 TYPE F OR G
ADMIXTURES - CORROSION INHIBITOR	ASTM C494 TYPE C
ADMIXTURES - SHRINKAGE REDUCER	ECLIPSE 4500 OR APPROVED EQ.
ADMIXTURES - COLOR (S-2 SLAB)	SOLACHROME OR APPROVED EQUAL (COLOR TO BE SELECTED BY THE CITY)
  5. CONCRETE EXPOSED TO FREEZE-THAW CONDITIONS SHALL BE AIR ENTRAINED CONCRETE, CONTAINING 4% TO 7% ENTRAINED AIR, AND CONFORM TO ASTM C-260. ALL CONCRETE SHALL BE CONSIDERED EXPOSED TO FREEZE-THAW.
  6. CONCRETE SHALL BE MIXED, PLACED AND CURED WITHOUT THE USE OF CALCIUM CHLORIDE. THE PLACEMENT OF CONCRETE SHALL COMPLY WITH THE LATEST AMERICAN CONCRETE INSTITUTE (ACI) CODES, INCLUDING ACI 306.1 "COLD WEATHER CONCRETING" AND ACI 305R "HOT WEATHER CONCRETING". SUBMIT MATERIAL TEST REPORTS FORM A QUALIFIED TESTING AGENCY DEMONSTRATING THE TEST RESULTS FOR TRIAL BATCHES FOR EACH CONCRETE MIX COMPLIES WITH ACI 301.
  7. ALL CONCRETE SURFACES SHALL BE COMPLETELY CLEANED FROM ANY DIRT, TRASH OR OTHER CONTAMINATION TO THE SURFACE BEFORE POURING NEW CONCRETE. ROUGHEN SURFACE TO ¼" AMPLITUDE AND APPLY BONDING AGENT PRIOR TO PLACING NEW CONCRETE. (APPLIES TO NEW CONCRETE AGAINST EXISTING AND TO NEW CONCRETE AGAINST ALREADY HARDENED NEW CONCRETE)
  8. WELDED STEEL WIRE REINFORCEMENT (WWR) SHALL BE ASTM A185. WWR TO BE SPLICE/LAP 2 SQUARE OR 8 IN, WHICH EVER IS GREATER. TIE ALL SPLICES/LAPS.
  9. SUPPORT WWR TO REMAIN IN PLACE (IE FOR SLAB LOCATE CENTER TO UPPER ⅓ OF SLAB) FOR THE DURATION OF THE POUR. METHODS SUCH AS "HOOK AND PULL" WILL NOT BE ACCEPTABLE. CARE SHOULD BE TAKEN TO NOT DISPLACE OR DEFORM THE WWR BY WALKING ON IT, ETC..
  10. PRIOR TO ORDERING ANY REINFORCING STEEL OR WWR, PROVIDE REINFORCEMENT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. REINFORCING SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT". NO REINFORCING SHALL BE ORDERED OR PLACED WITHOUT SHOP DRAWINGS APPROVED BY THE ENGINEER
  11. MINIMUM COVER FOR ALL REINFORCING STEEL IS AS FOLLOWS
 

3" CONCRETE CAST AGAINST THE GROUND AND PERM. EXP. TO EARTH
1½" CONCRETE EXP. TO EARTH AND/OR WEATHER
  12. WET CURE ALL CONCRETE FOR MINIMUM OF 7 DAYS.
  13. SLEEVES: INSERT AND SLEEVE SHALL BE CAST IN. NO SLEEVE SHALL BE PLACED THROUGH ANY CONCRETE ELEMENT UNLESS APPROVED BY THE STRUCTURAL DRAWINGS AND/OR SHOWN ON APPROVED SLEEVED PLANS. CORE DRILLING SHALL NOT BE PERMITTED.
  14. EXPANSION JOINT/ISOLATION JOINT FILLER: ASTM D1751 ASPHALT-SATURATED CELLULOSIC FIBER. INSTALL DOWN ½" FROM TOP OF CONCRETE SLAB. SEAL WITH BACKER ROD AND SEALANT.
  15. DOWELS: ½" SMOOTH DOWELS, ASTM A615 Gr. 60
  16. POST INSTALLED ANCHORS OR REBAR
 

A. EPOXY ANCHORS: HILTI HAS ROD EPOXY WITH HILTI HIT-HY 200 OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S INSTRUCTION. PROVIDE STAINLESS STEEL ANCHORS FOR ALL EXTERIOR APPLICATIONS.
B. REBAR: EPOXY WITH HILTI HIT-HY 200 OR APPROVED EQUAL, INSTALL PER MANUFACTURER'S INSTRUCTIONS.
  17. QUALITY ASSURANCE:
 

A. REBAR INSPECTIONS: NOTIFY ENGINEER ONCE REINFORCEMENT IN READY FOR INSPECTION. ALLOW TIME FOR INSPECTION PRIOR TO THE POUR.
B. CONCRETE TESTING:
- SAMPLE FOR STRENGTH NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 C.Y. (AND AT LEAST FIVE STRENGTH TEST PER TYPE OF CONCRETE)
- STRENGTH TEST IS THE AVERAGE OF THE STRENGTH OF AT LEAST TWO 6 BY 12IN CYLINDER OR AT LEAST THREE 4 BY 8 IN. MADE FROM THE SAME SAMPLE OF CONCRETE AND TESTED AT 28 DAYS. SAMPLE SHALL BE IN ACCORDANCE WITH ASTM C172, MOLDED AND CURED PER ASTM C31 AND TESTED PER ASTM C39.
  18. MAINTENANCE: AVOID DE-ICING SALTS ON ALL CONCRETE SURFACES.
  19. DURING TROWEL FINISH, CONTRACTOR SHALL PULL BRUSH ONE TIME ONLY TO FINISH CONCRETE SURFACE AND SHALL TAKE CARE NOT TO OVER-WORK CONCRETE. A PRE-POUR MEETING SHALL BE CONDUCTED TO REVIEW CONTRACTOR'S PROPOSED PLACEMENT AND FINISH PROCEDURE AND QUALITY CONTROL MEASURES.



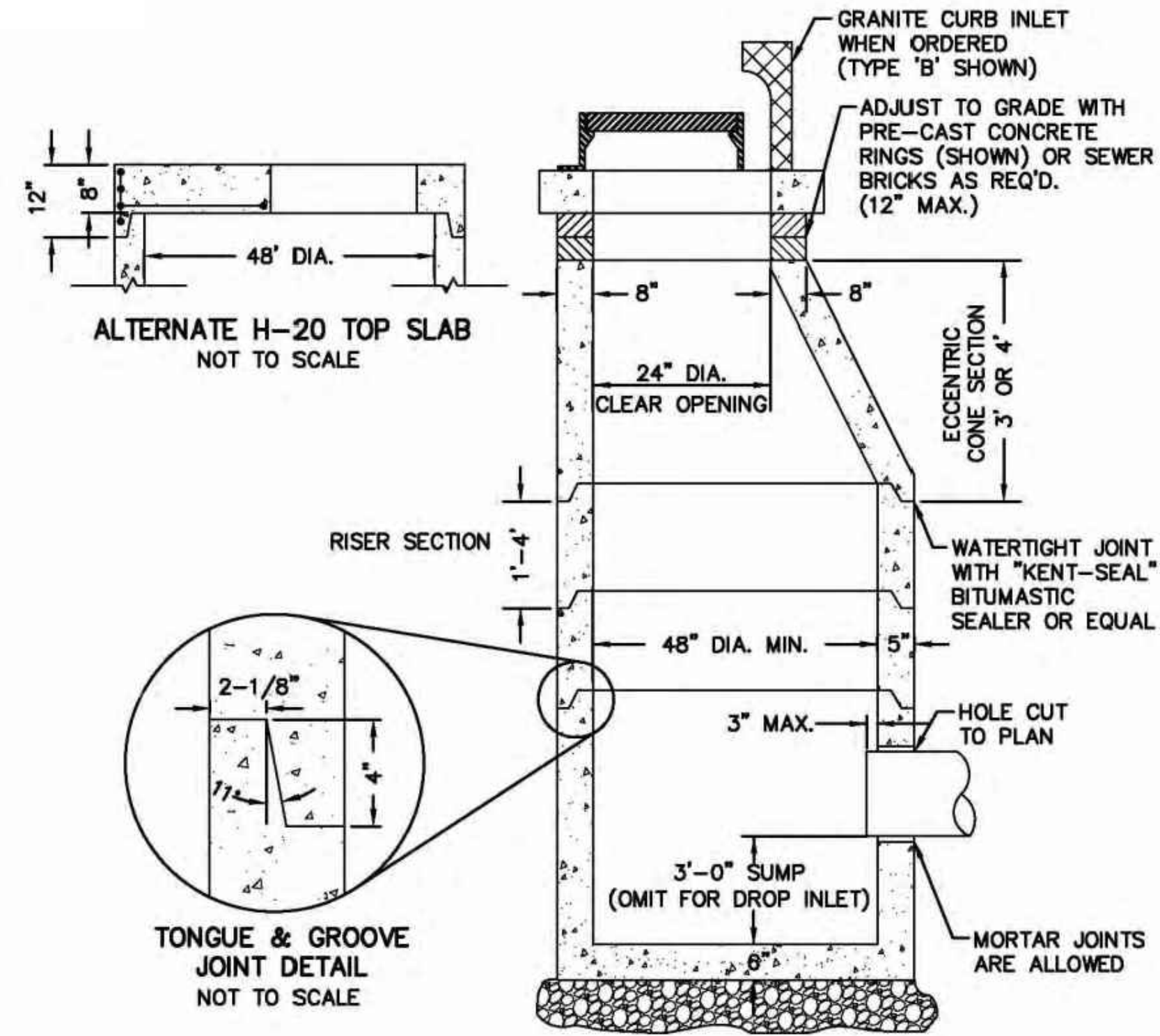


YARD DRAIN NOTES:

1. THE YARD DRAIN SHALL BE INSTALLED IN THE PLAYGROUND. SEE LANDSCAPE DRAWINGS FOR INTERFACE BETWEEN YARD DRAIN AND RUBBER SURFACING.
2. INSTALL ADA COMPLIANT FRAME AND GRATE ON YARD DRAIN: EJ PRODUCT NO. 00775036B01 OR APPROVED EQUAL.

1  
C9 YARD DRAIN DETAIL

SCALE: NONE



ALL SECTIONS SHALL BE CONCRETE, CLASS AA, (4,000 PSI), CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER L.F. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.

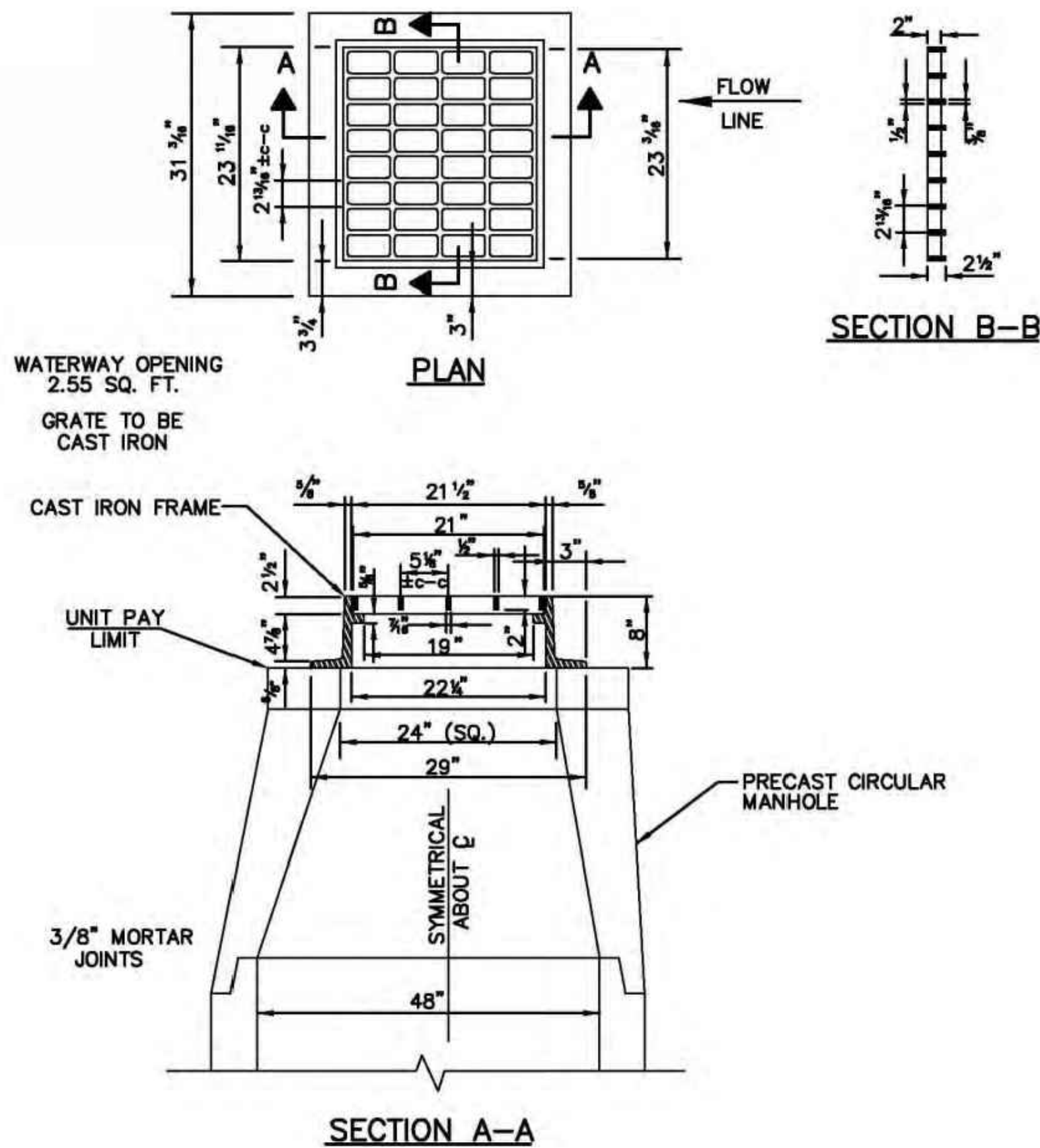
THE TONGUE OR GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER L.F.

RISERS OF 1'-4" MAY BE USED TO REACH THE DESIRED ELEVATION.

STEPS ARE NOT ALLOWED.

2  
C9 PRE-CAST REINFORCED CONCRETE CATCH BASIN & DROP INLET DETAIL (CB2 AND CB3)

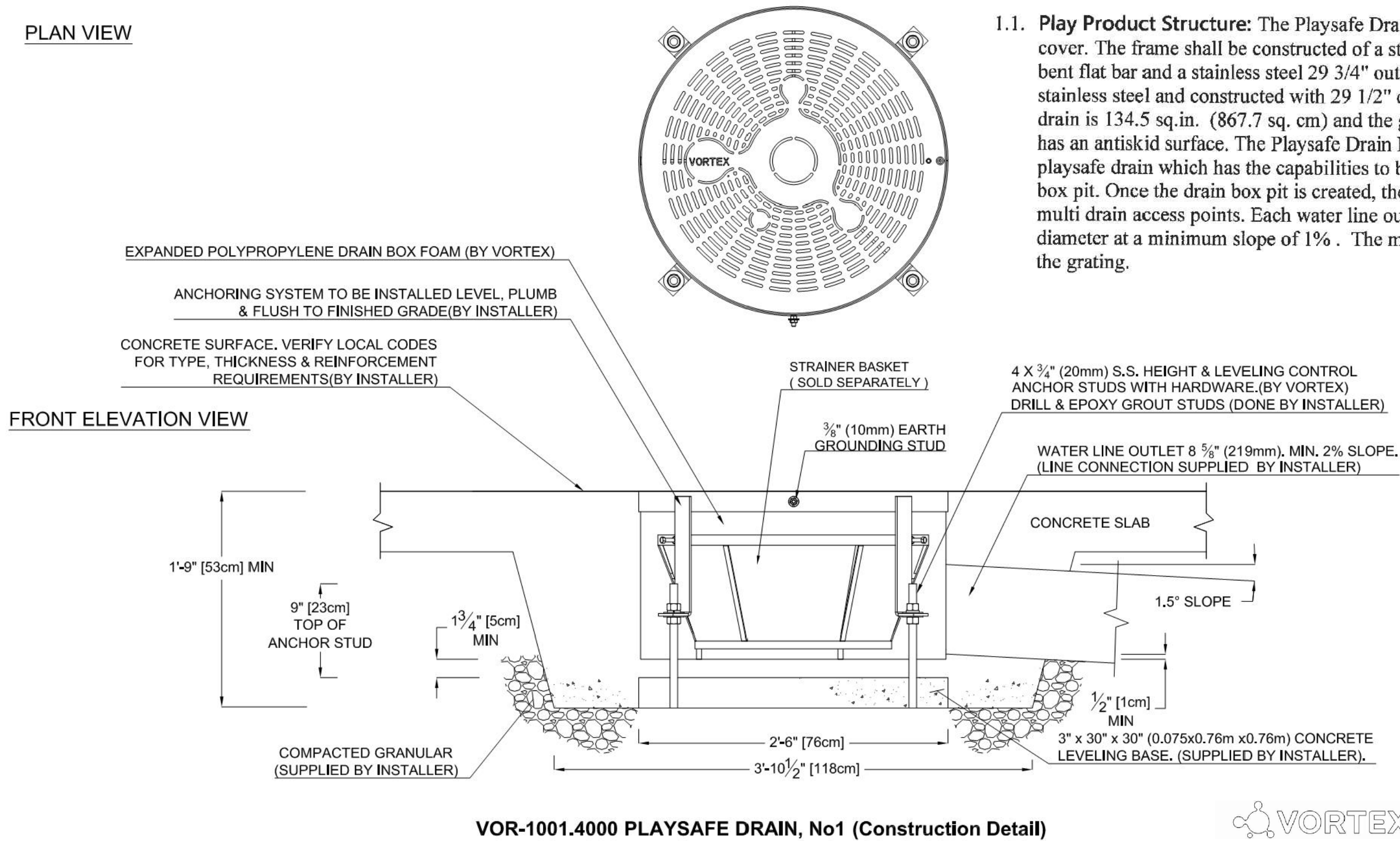
SCALE: NONE



3  
C9 FRAME AND GRATE TYPE "B" DETAIL (CB2 AND CB3)

SCALE: NONE

PLAN VIEW

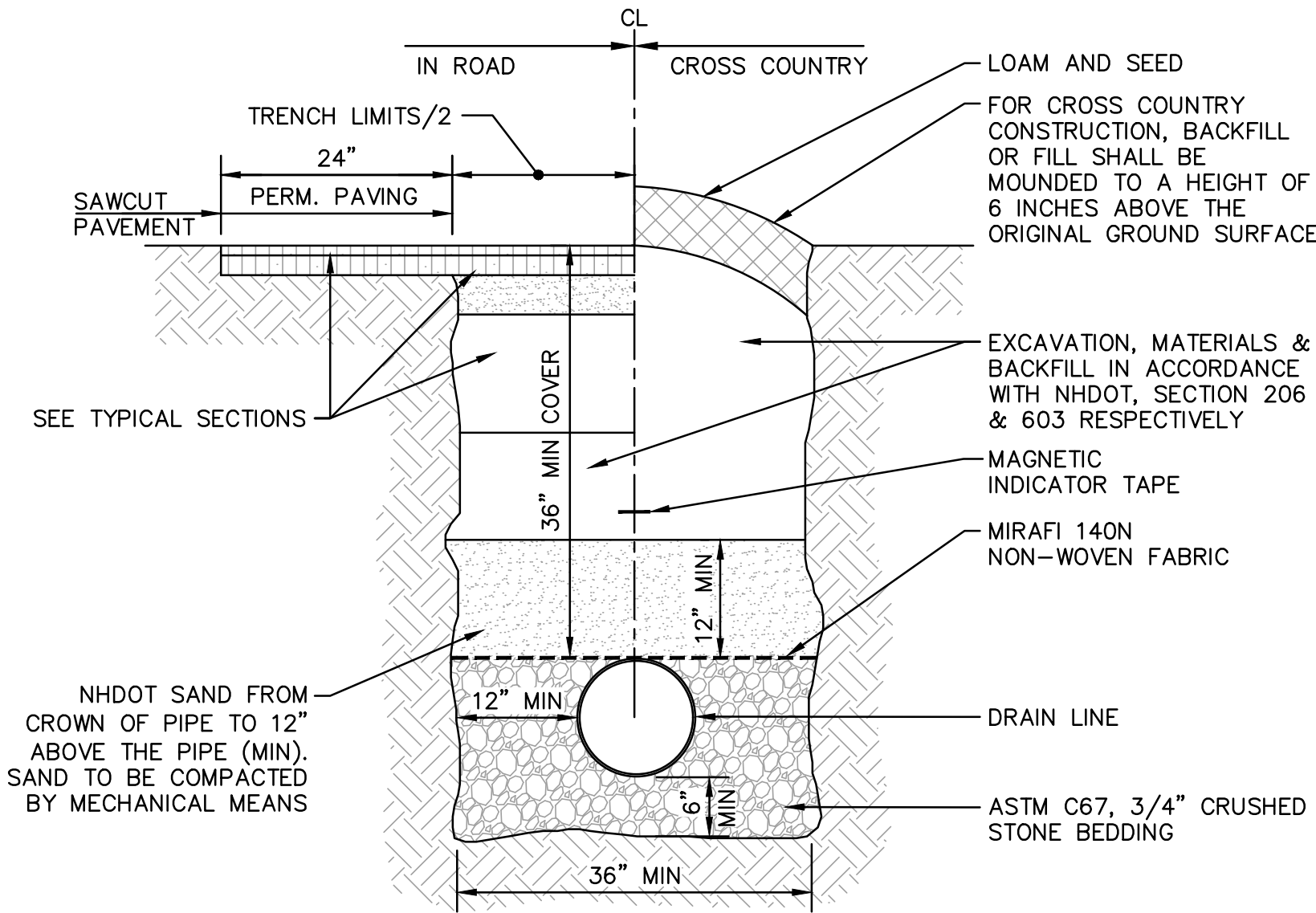


4  
C9 VORTEX PLAYSFAF DRAIN FOR SPLASH PAD

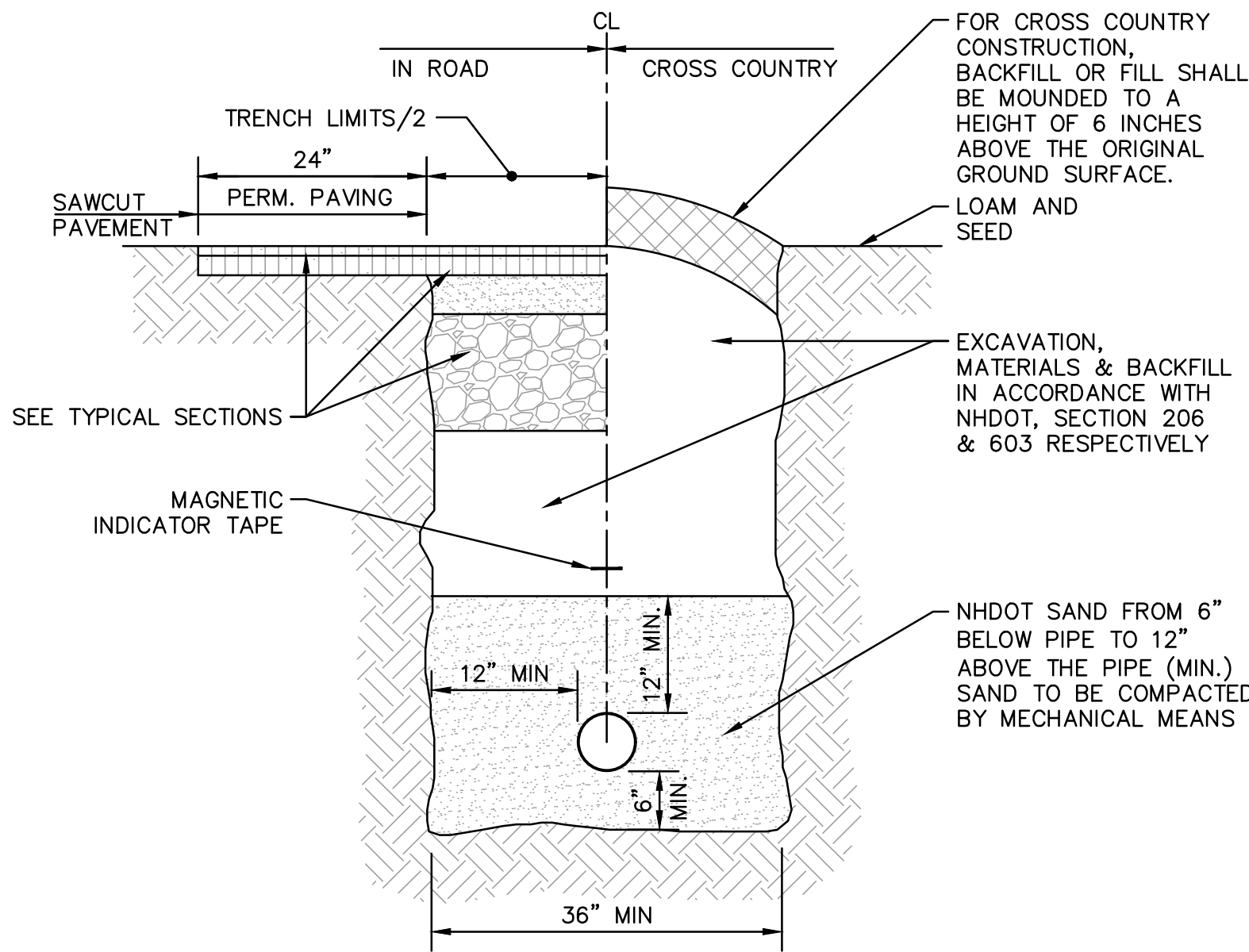
SCALE: NONE

DATE	
REVISION	
DESCRIPTION	
REV.	
CHECKED BY	WRD
DRAWN BY	HEM
DESIGNED BY	MAD
DATE:	AUGUST 10, 2020
SCALE:	AS SHOWN
Pease International Tradeport 100 International Dr., #360, Portsmouth, NH 03801 Tel (603) 431-2520 Fax (603) 431-8067 Web: www.hoyletanner.com	
CITY OF MANCHESTER DEPARTMENT OF PUBLIC WORKS 475 VALLEY STREET MANCHESTER, NH 03103	PROJECT SHEEHAN-BASQUIL PARK RENOVATION - PHASE II MANCHESTER, NH
CONSTRUCTION DETAILS 2	
C9	
PROJECT NO. 111121	
SHEET 9 OF 16	





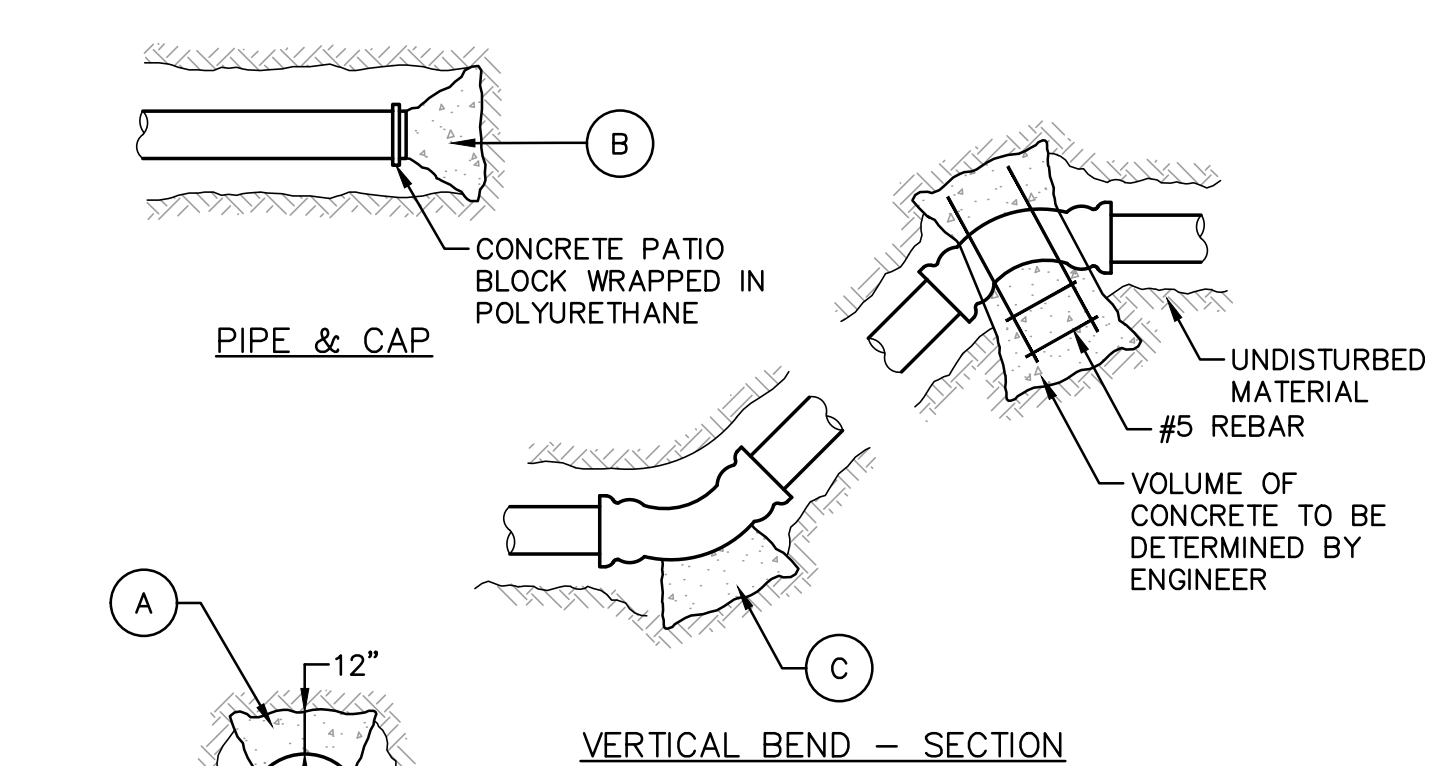
1 DRAIN TRENCH DETAIL  
C10 SCALE: NONE



WATERLINE TRENCH NOTES:

- APPROVED MATERIAL: SHALL BE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, CULMPS MORE THAN 3" DIA., ALL EXCAVATED LEDGE ROCK, STUMPS OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
- SEWER AND WATER PIPING RUNNING APPROXIMATELY PARALLEL MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF TEN FEET MINIMUM.
- WATER MAINS ARE TO HAVE A MINIMUM COVER OF 5'-6" FT.

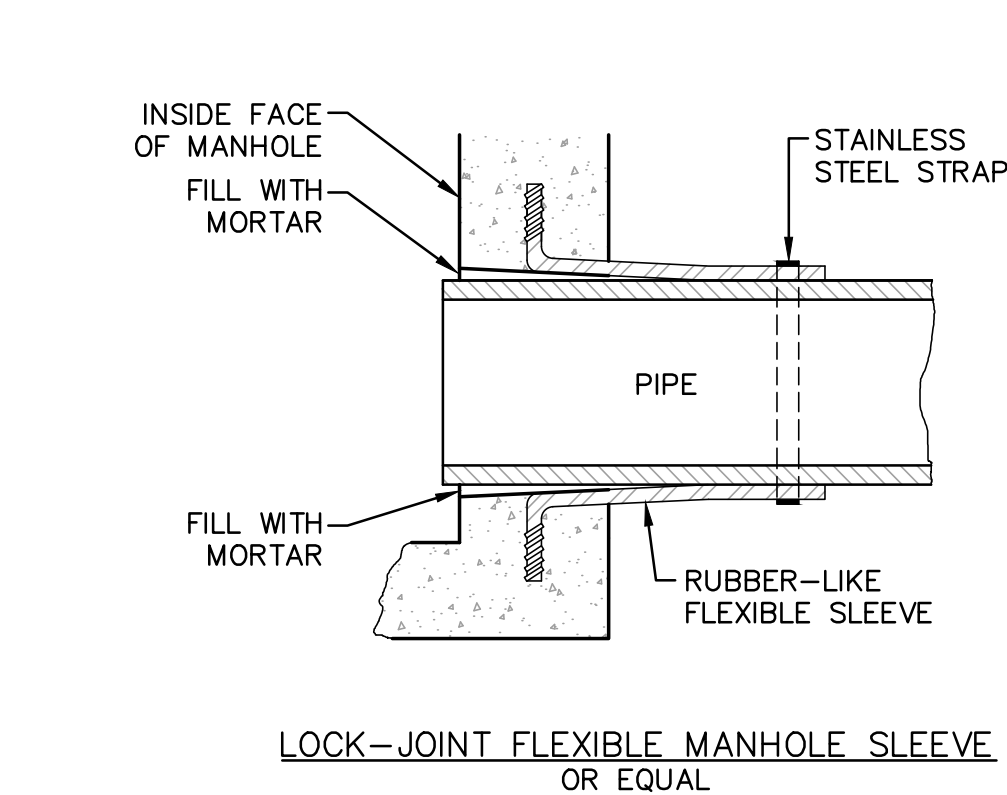
2 WATER LINE TRENCH DETAIL  
C10 SCALE: NONE



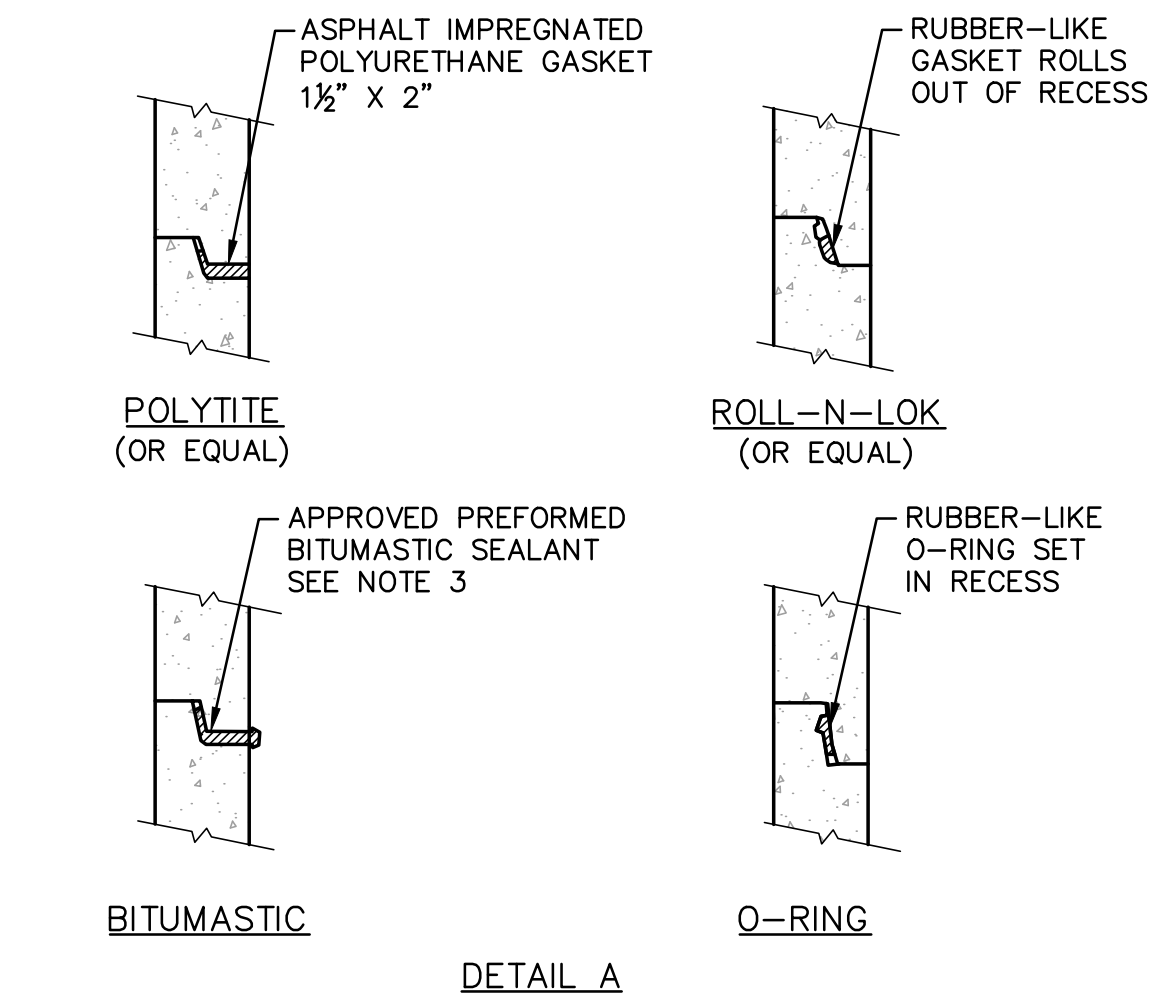
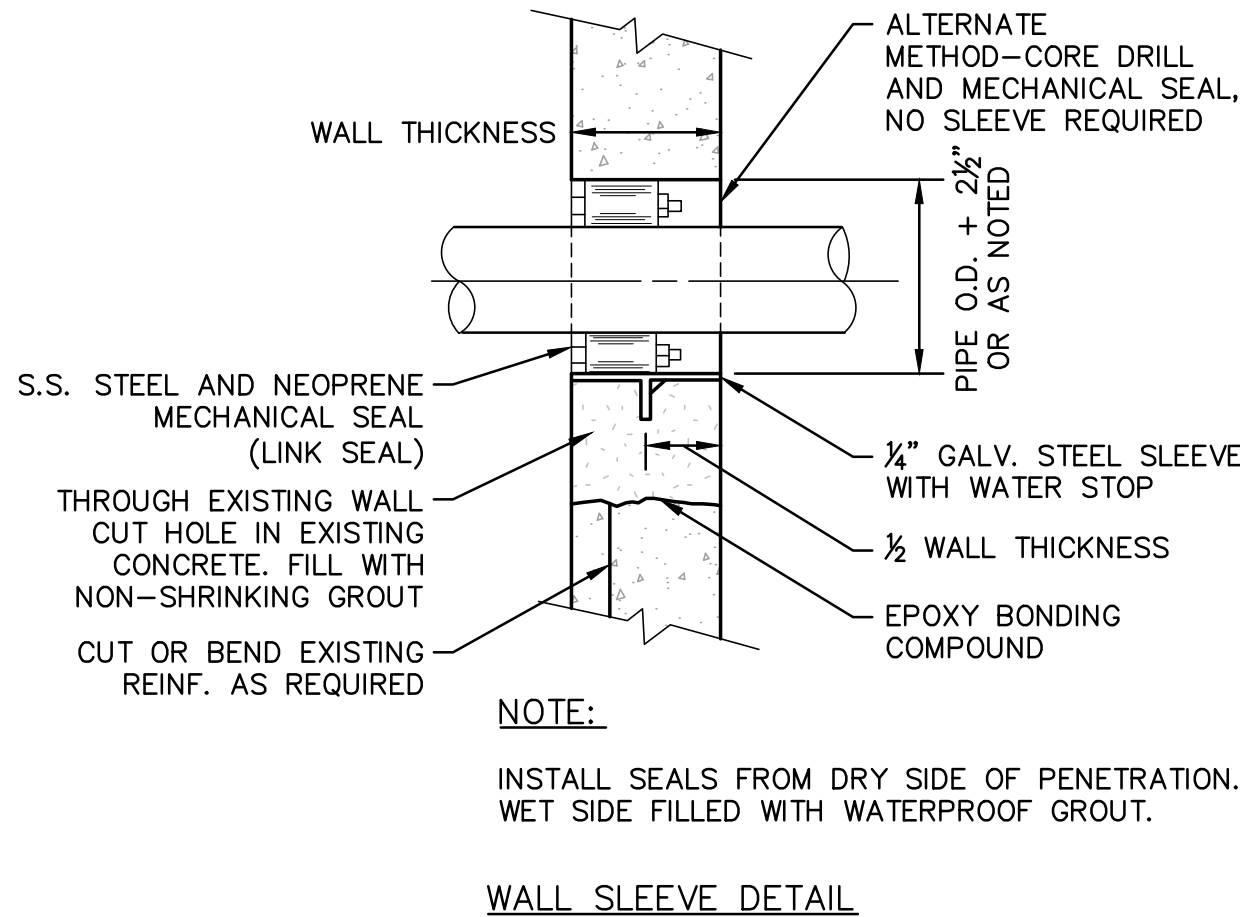
THRUST BLOCK SCHEDULE						
SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL						
REACTION TYPE		PIPE SIZE				
TEST PRESSURE = 100 PSIG	A	1"-4"	6"	8"	10"	12"
	B	0.89	2.19	3.92	5.57	8.62
	C	0.65	1.55	2.76	4.19	6.09
	D	0.48	1.19	2.12	3.01	4.66
	E	0.25	0.60	1.08	1.54	2.37
OTHER TEST PRESSURES FOR THE ABOVE REACTIONS		0.13	0.30	0.54	0.77	1.19
		TEST PRESSURE TO BE 200 PSI MINIMUM AT LOW END OF THE TEST SECTION.				
		SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE.				

THRUST BOCK NOTES:

- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
- ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
- PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
- REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
- RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
- ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
- THREADED RODS SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AIWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
- THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS PLUGS, OR CROSSES.
- INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
- ALL WATERLINE CONSTRUCTION SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF PORTSMOUTH WATER DIVISION CONSTRUCTION MANUAL

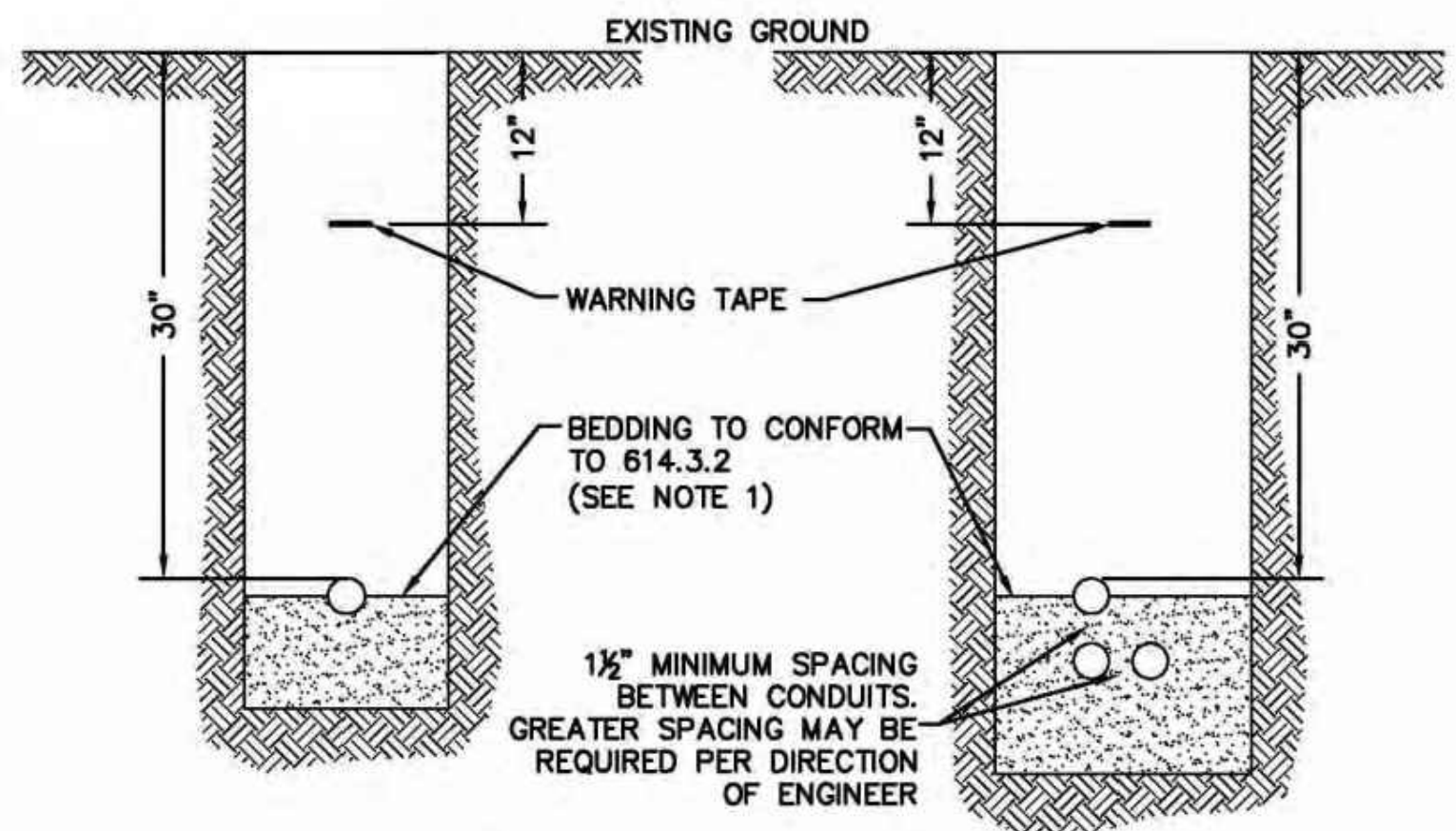


4 MANHOLE JOINT AND PIPE CONNECTION DETAILS  
C10 SCALE: NONE



SLEEVE AND GASKET NOTES:

- HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.
- PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON ELASTOMERIC SEALANT.
- FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
- NON-SHRINKING MORTAR SHALL ONLY BE USED WHERE SPECIFICALLY APPROVED BY THE ENGINEER.
- ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ALL GASKET AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS WRITTEN INSTRUCTIONS. CONTRACTOR TO PROVIDE DOUBLE ROW OF ELASTOMERIC SEALANT IN ACCORDANCE WITH ENV-WQ 704.10 (F)



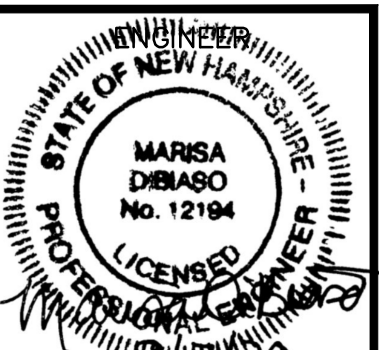
SINGLE CONDUIT LAYOUT

MULTI CONDUIT LAYOUT

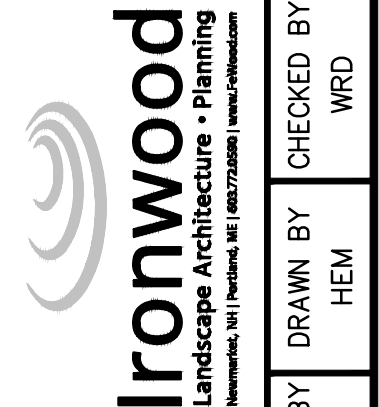
NOTES

- WHERE ROCK OR UNSUITABLE MATERIAL IS ENCOUNTERED IN THE TRENCH, CONDUIT SHALL BE PLACED ON A 6" BEDDING CONFORMING TO 614.3.2.
- BACKFILL ABOVE CONDUIT SHALL BE IN ACCORDANCE WITH 614.
- APPROVED SPACERS SHALL BE USED TO MAINTAIN REQUIRED DISTANCES BETWEEN CONDUITS.
- MULTIPLE CONDUITS IN THE SAME TRENCH MAY BE ARRANGED VERTICALLY OR HORIZONTALLY PROVIDED ALL CLEARANCES ARE MAINTAINED.

5 CONDUIT INSTALLATION DETAILS  
C10 SCALE: NONE



PROJECT NO.	111121	DATE	
REVISION	DESCRIPTION	REV.	



Hoyle, Tanner Associates, Inc.  
100 International Dr., #360, Portsmouth, NH 03801  
Tel (603) 431-2520 Fax (603) 431-8067 Web: www.hoyletanner.com

DESIGNED BY: MAD  
CHECKED BY: WRD  
DRAWN BY: HEM  
DATE: AUGUST 10, 2020  
SCALE: AS SHOWN

CITY OF MANCHESTER  
DEPARTMENT OF PUBLIC WORKS  
475 VALLEY STREET  
MANCHESTER, NH 03103

PROJECT  
SHEEHAN-BASQUIL PARK  
RENOVATION - PHASE II  
MANCHESTER, NH

CONSTRUCTION  
DETAILS 3  
C10

PROJECT NO. 111121  
SHEET 10 OF 16

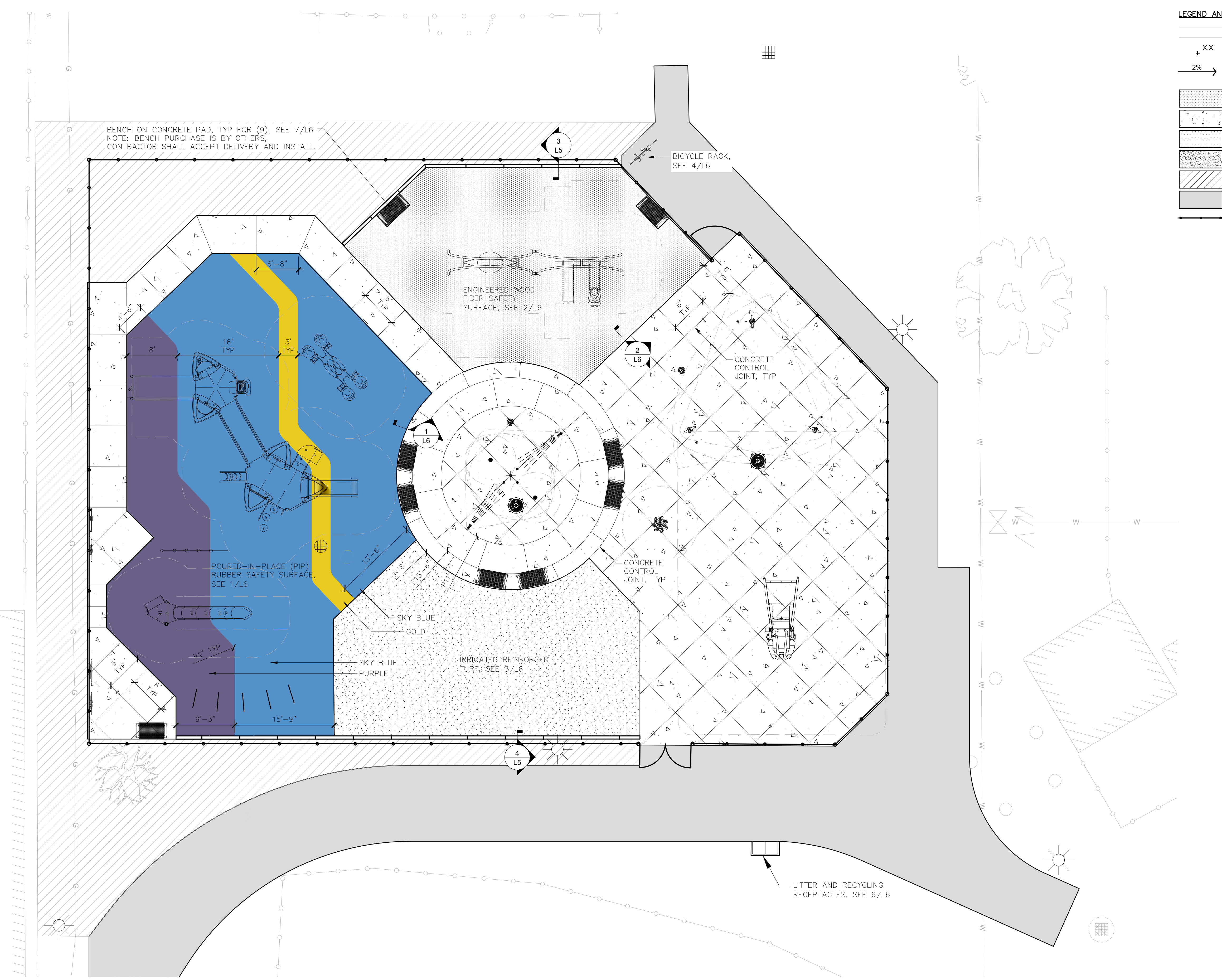












**LEGEND AND ABBREVIATIONS**

— PROPOSED CONTOUR LINES

+ X.X SPOT ELEVATION

2% → SLOPE (ARROW POINTS TO LOWER ELEVATION)

ENGINEERED WOOD FIBER (EWf) SAFETY SURFACE, SEE 2/L6

CONCRETE SLAB ON GRADE, SEE CIVIL DRAWINGS

POURED-IN-PLACE (PIP) RUBBER SAFETY SURFACE, SEE 1/L6

IRRIGATED REINFORCED TURF, SEE 3/L6

PLANTING BED, SEE SHEET L2 FOR PLANTING PLAN

ASPHALT PAVEMENT, SEE CIVIL DRAWINGS

4'-HIGH ALUMINUM FENCE, SEE 1/L5

LANDSCAPE ARCHITECT

JENNIFER MARTEL

00155

STATE OF NEW HAMPSHIRE

REV.	DESCRIPTION	DATE

**Ironwood**

Landscape Architecture + Planning

100 International Dr., #360, Portsmouth, NH 03801

Tel: (603) 431-2520 Fax: (603) 431-8067 Web: www.ironwoodnh.com

**Hoyle, Tanner & Associates, Inc.**

Pease International Tradeport

100 International Dr., #360, Portsmouth, NH 03801

Tel: (603) 431-2520 Fax: (603) 431-8067 Web: www.hoyletanner.com

DESIGNED BY JAM

DRAWN BY JAM

CHECKED BY JRH

DATE: AUGUST 10, 2020

SCALE: AS SHOWN

CITY OF MANCHESTER

DEPARTMENT OF PUBLIC WORKS

475 VALLEY STREET

MANCHESTER, NH 03103

PROJECT

SHEEHAN-BASQUIL PARK

RENOVATION - PHASE II

MANCHESTER, NH

PLAYGROUND MATERIALS PLAN

**L3**

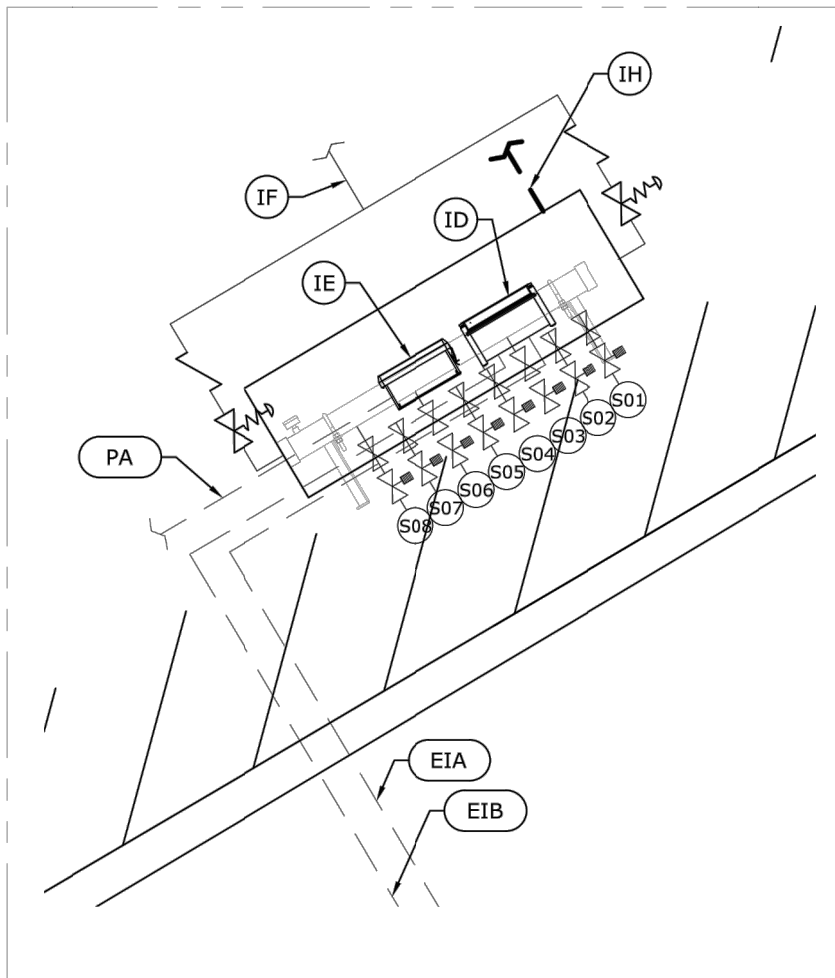
PROJECT NO. 111121

SHEET 13 OF 16

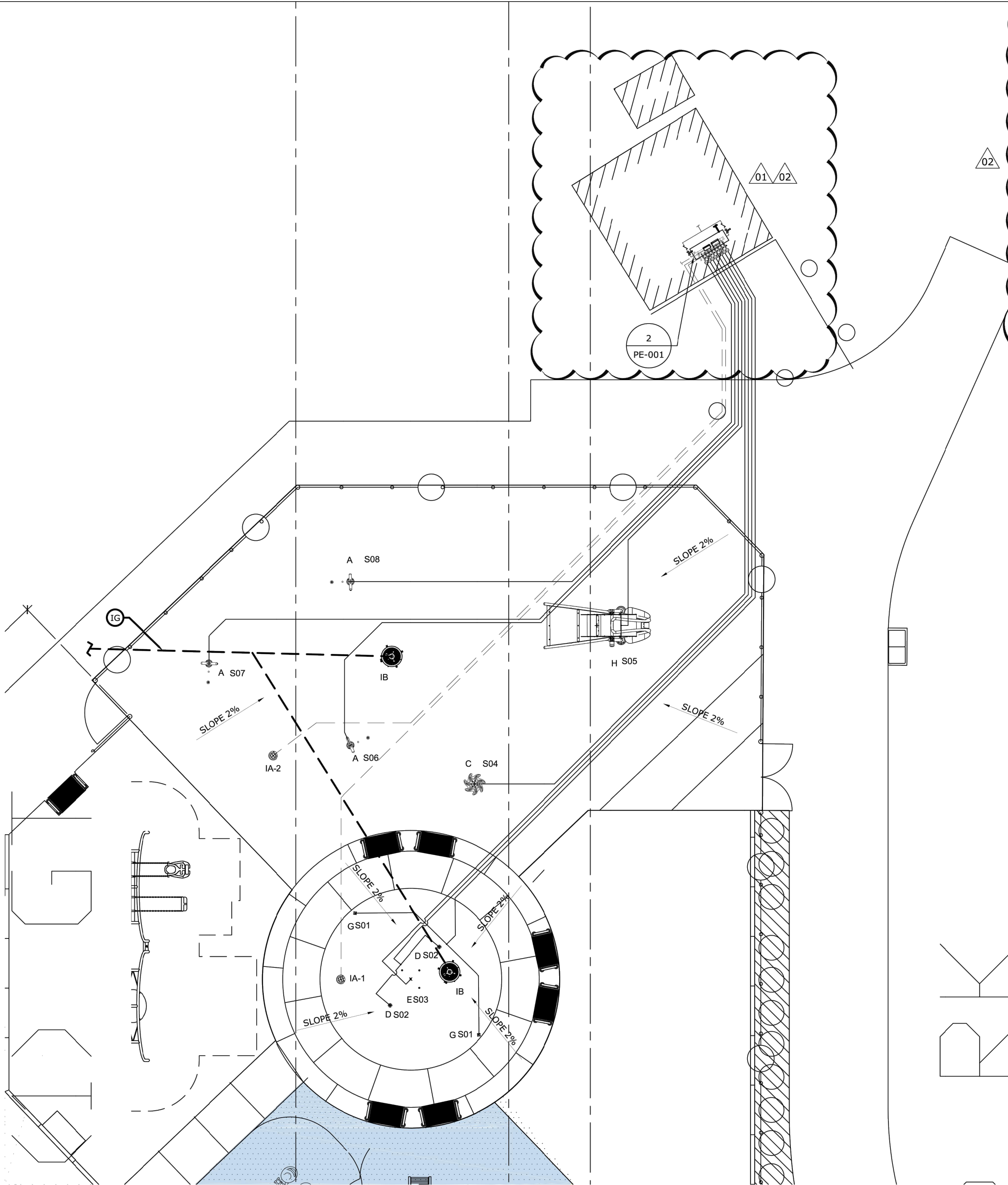


- 1.1 WDS CONFIGURATION ARE SCHEMATIC AND MAY BE MOVED OR ADJUSTED ON SITE BY VORTEX CERTIFIED INSTALLER TO ADJUST FOR SITE CONDITIONS
- 1.2 ANY REQUIRED WATER METER ON THE CITY WATER MAIN SHALL BE PROVIDED BY INSTALLER. BACKFLOW PREVENTER AND PRESSURE REGULATOR WILL BE PROVIDED BY VORTEX.
- 1.3 ALL PIPE LINES TO FEATURES TO HAVE A 1% MINIMUM RECOMMENDED SLOPE FOR PROPER WINTERIZATION.
- 1.4 ALL LINE SIZING (FEATURE CONNECTION TABLE) ASSUMES A MAXIMUM DISTANCE OF 130 FEET BETWEEN THE WATER DISTRIBUTION MANIFOLD AND THE FURTHEST PLAY PRODUCT. DISTANCES ABOVE 130 FEET MAY REQUIRE AN INCREASE IN LINE SIZING. PLEASE CONTACT VORTEX.
- 1.5 THE LINE DIAMETER FROM DRAIN SHALL BE 8" BASED ON THE MAXIMUM APPROXIMATE FLOW AT 1% SLOPE. FINAL LOCATION OF DRAIN AND LINE ROUTING AREA TO BE DETERMINED BY OTHERS.
- 1.6 PRESSURE LINES ARE RECOMMENDED TO BE SCHEDULE 80 PVC OR PEX, AND NON-PRESSURE LINES TO BE SCHEDULE 40, UNLESS OTHERWISE REQUESTED BY LOCAL CODE.
- 1.7 DRAINAGE LINES ARE RECOMMENDED TO BE SDR 35, UNLESS OTHERWISE REQUESTED BY LOCAL CODE.
- 1.8 PIPING SHOULD BE INSPECTED AFTER TRANSPORTATION FOR CUTS, SCRATCHES, GOUGES OR SPLITS; DAMAGED SECTIONS MUST BE DISCARDED OR CUT OUT.
- 1.9 PIPE SHALL BE INSTALLED BELOW THE FROST LEVEL NOT LESS THAN 12" (ASTM F-645) UNLESS OTHERWISE REQUESTED BY LOCAL CODE.
- 1.10 PIPE INSTALLATION MINIMUM COVER SHOULD BE EVALUATED ACCORDING TO ASTM D-2774, UNLESS OTHERWISE REQUESTED BY LOCAL CODE.
- 1.11 SPECIAL CONSIDERATIONS SHOULD BE TAKEN FOR THERMAL CONDITIONS, EXPANSION AND CONTRACTIONS DUE TO TEMPERATURE SHOULD BE EVALUATED BEFORE THE INSTALLATION BY THE CONTRACTOR.
- 1.12 VALVE NUMBER 1 IS LOCATED TO THE LEFT OF THE MANIFOLD FACING THE CONTROLLER.
- 1.13 MINIMUM 50 PSI REQUIRED AT THE INLET OF THE BACKFLOW PREVENTER AND PRESSURE REGULATING DEVICE.
- 1.14 MAXIMUM FLOW CAPACITY OF MANIFOLD IS 144 GPM.
- 1.15 TOTAL FLOW OF THE FEATURE IS 144.5 GPM.
- 1.16 FACTORY MAXIMUM SEQUENCING FLOW IS 115 GPM. ACTUAL FLOW MAY VARY DUE TO SITE CONDITIONS.

- 2.1.1 WIRING FROM THE CONTROLLER TO EACH ACTIVATOR SHALL BE #22 AWG. A TOTAL OF FIVE (5) CONDUCTORS PER ACTIVATOR. CABLE LENGTH UP TO 246' (75m), PROVIDED BY VORTEX.
- 2.2 ALL CONNECTIONS TO THE CONTROLLER AND OTHER VORTEX ELECTRICAL PANEL SHALL BE PERFORMED USING AN APPROVED NEMA 4X CONNECTOR.
- 2.3 WIRE FROM MAIN POWER TO VORTEX PANEL TO BE DETERMINED BY OTHERS RESPECTING THE LOCAL CODE.
- 2.4 MAINTAIN A MINIMUM CLEARANCE ZONE OF 36" IN FRONT OF ELECTRICAL PANEL, UNLESS OTHERWISE REQUESTED BY LOCAL CODE.
- 2.5 USE #8 BARE COPPER BONDING WIRE BETWEEN FEATURES TO A GROUNDING ROD IN THE SOIL, TIED INTO REBAR GRID, OR AS PER LOCAL CODE.
- 2.6 AS PER ELECTRICAL CONSTRUCTION AND SAFETY CODES: CONTROLLER AND ANY OTHER ELECTRICAL ENCLOSURE MUST BE HARD-WIRED TO A GROUND FAULT CIRCUIT INTERRUPTER (GFCI) FROM THE INPUT POWER SOURCE.
- 2.7 ALL ELECTRICAL WORK SHOULD BE PERFORMED BY A LICENCE ELECTRICIAN IN ACCORDANCE TO LOCAL ELECTRICAL CONSTRUCTION AND SAFETY CODES.
- 2.8 THE MAESTROPRO CONTROL PANEL IS POWERED THROUGH A MAESTROPRO POWER BOX.
- 2.9 THE POWER CABLE TO MAESTROPRO POWER BOX IS SUPPLIED BY INSTALLER.
- 2.10 THE MAESTROPRO CONTROL PANEL INTEGRATES 24 DIGITAL OUTPUTS WITH 24 VAC AND 12 DIGITAL INPUTS.



SCALE: 1/2"=1'-0"






SCALE: 1/8"=1'-0"

WATER LINE _____  
DRAIN LINE — — — — —  
ELECTRICAL LINE - - - - -

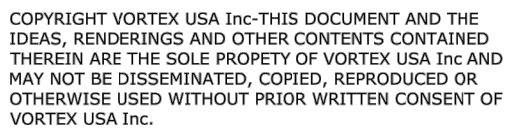
Manifold Output Ref.	Solenoid Valve	Feature Ref.	Feature	Qty	Line Size	Gpm	Output (ID)
S01	1 1/2" Std	G	Rooster Tail VOR 0303	2	1 1/2"	25	1
S02	1 1/2" Std	D	Water Jelly N°1 VOR 7010	2	1 1/2"	12	2
S03	1 1/2" Std	E	Team Spray N°4 VOR 7650	1	1 1/2"	17.5	3
S04	1 1/2" Std	C	Helio N°1 VOR 7236	1	2"	46.5	4
S05	1 1/2" Std	H	Superwave VOR 0136	1	2"	30	5
S06	1 1/2" Std	A	Bamboo Cannon N°1 VOR 7788	1	1 1/2"	4.5	6
S07	1 1/2" Std	A	Bamboo Cannon N°1 VOR 7788	1	1 1/2"	4.5	7
S08	1 1/2" Std	A	Bamboo Cannon N°1 VOR 7788	1	1 1/2"	4.5	8

Electrical Line Connections Power					
Product Code	From	To	# Conductors	Gauge/Type	Note
PA	Main Power Line (by Owner)	1E-120VAC	3	TBD (by Installer)	120V, 1 Phase, 60Hz, 10Amps Breaker Recommended ± 5% Voltage Drop is Acceptable

Electrical Line Connections Controller Inputs					
Product Code	From	To	# Conductors	Gauge/Type	Note
EIA	ID-Input 1	IA-1	5	22	Bollard Activator No3, 24 VAC, Max 345 mA, 246' Long Cable (by Vortex)
EIB	ID-Input 2	IA-2	5	22	Bollard Activator No3, 24 VAC, Max 345 mA, 246' Long Cable (by Vortex)

Product Legend		
Product Ref.	Product	Qty
1A	Bollard Activator No3 VOR-611	2
1B	Playsafe Drain VOR-1001.4000	2
1C	Water Distribution System; Wall mounted Command Center 29066D1708R03	1
1D	MaestroPRO Controller 24 out/ 12 in	1
1E	MaestroPRO Power Box	1
1F	3"City Water Line (by Installer)	1
1G	To municipal Drain (by Installer)	
1H	4" TYP Drain Line With Strainer Connected to Drainage System. Ensure P-Trip is Below First Line to Prevent Freezing. (by Installer)	1
	Pressure Regulator (by Vortex)	2
	Backflow Preventer (by Vortex)	2
	Solenoid Valve 1 1/2" Ball Valve	8

Drawing #	Drawing Name	Rev#
PE-001	Plumbing & Electrical Layout	01



# Sheehan-Basquill Park Splashpad

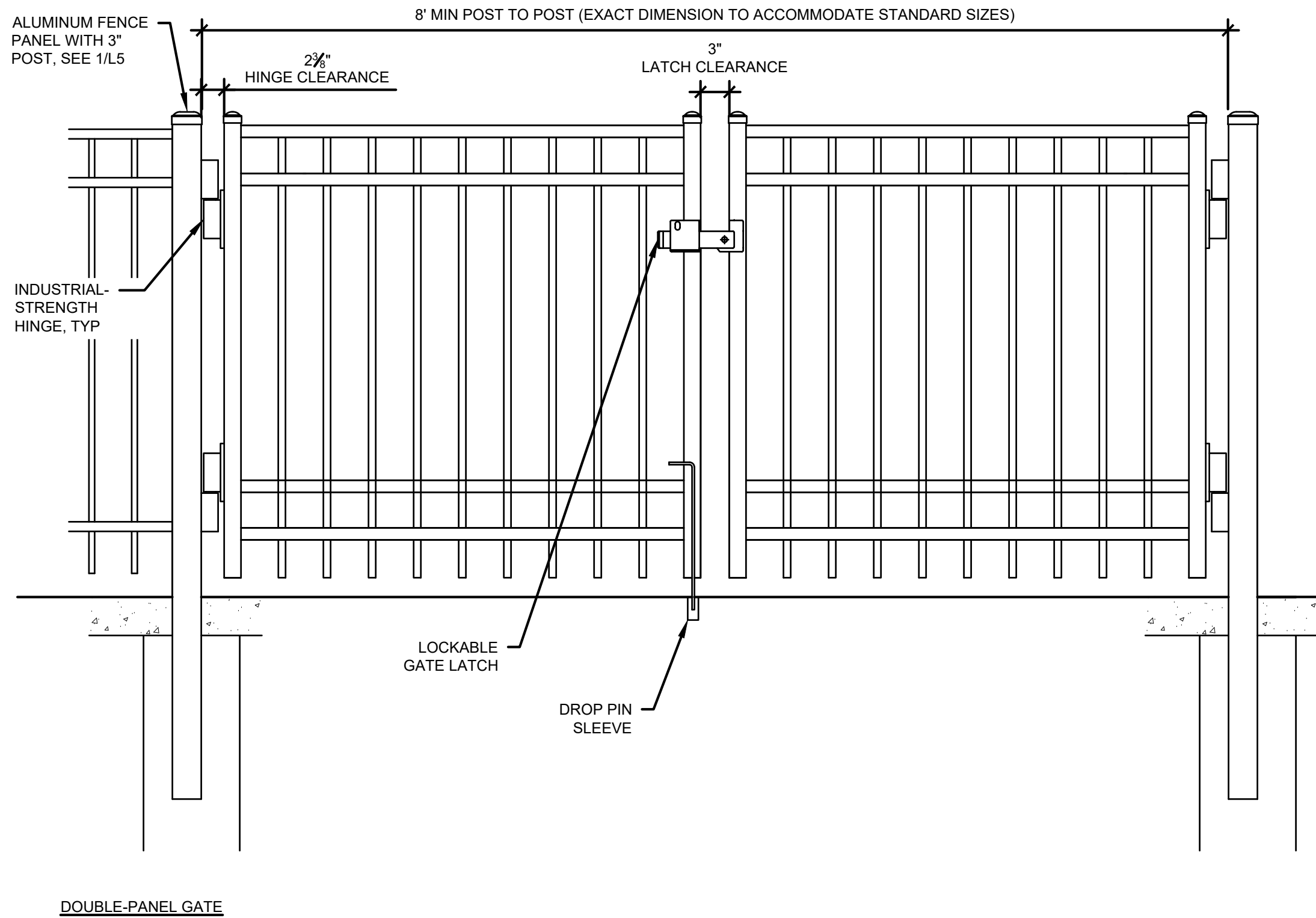
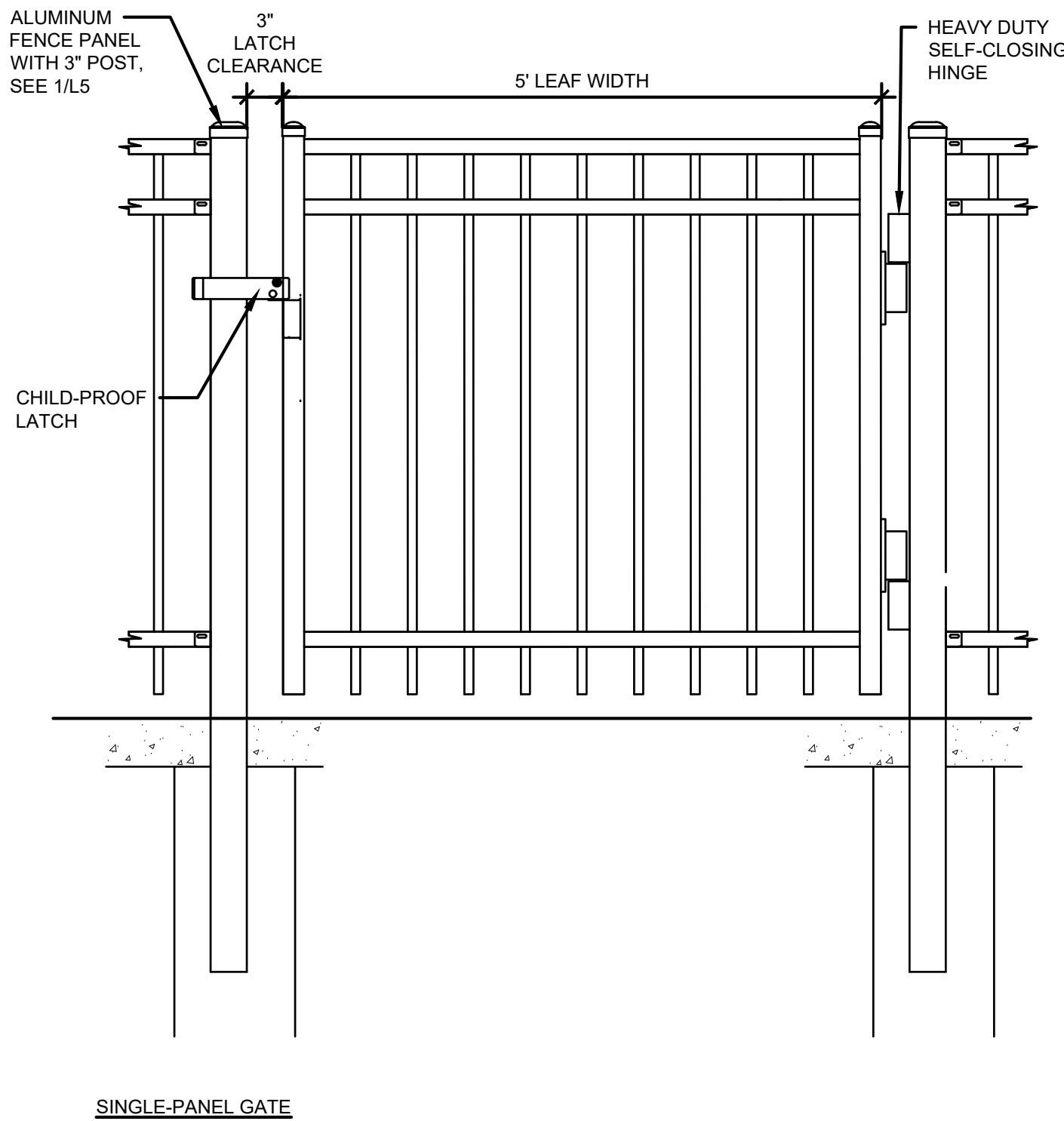
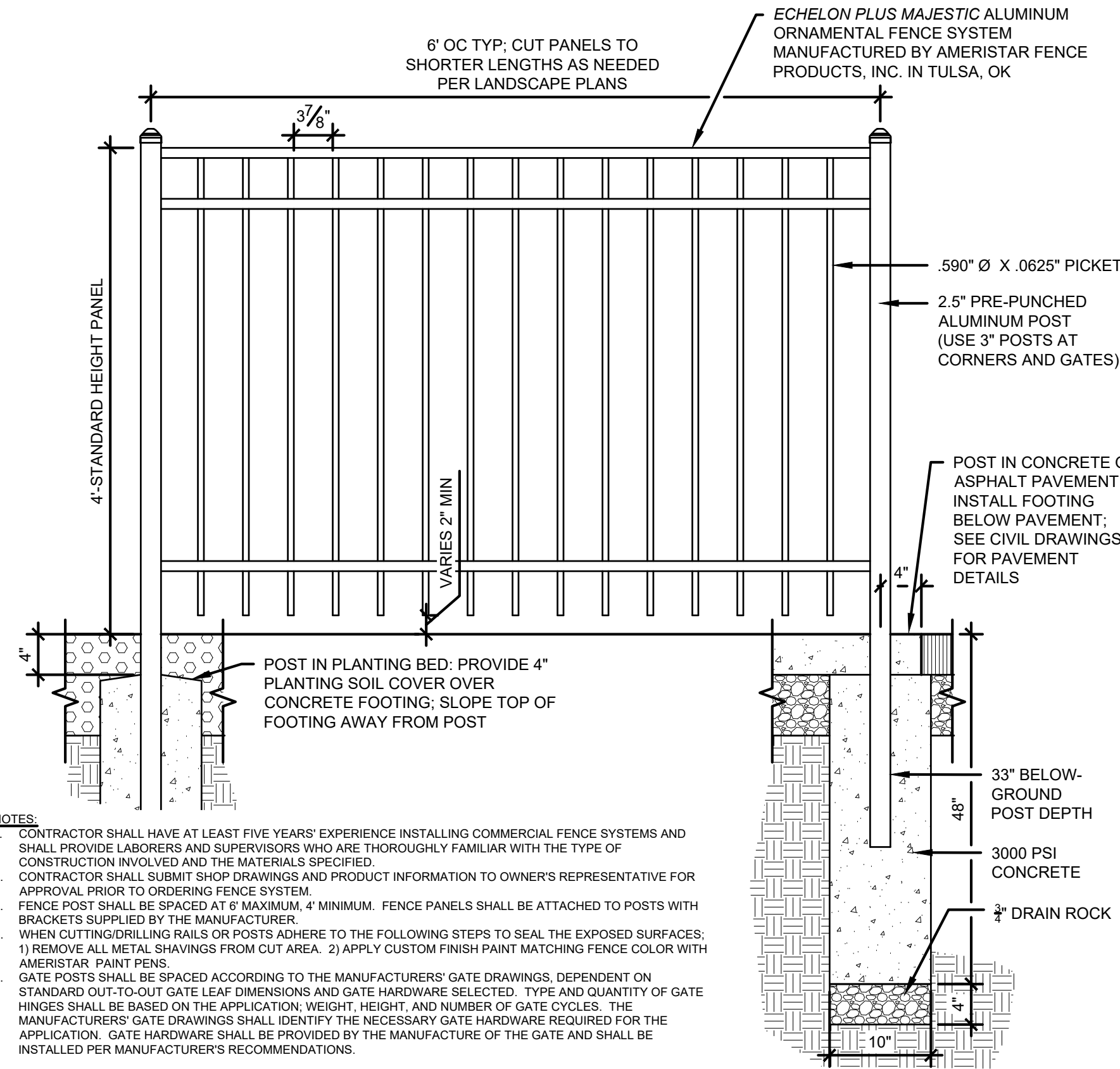
Project Location	City of Manchester, NH
Project Number	29066
Order Number	

[illegible]

02/Aug/2020	Re-Issued for Approval	02	SR
31/July/2020	Re-Issued for Approval	01	SR
26/June/2020	Issued for Approval	00	MM
Date	Revision Description	No.	By

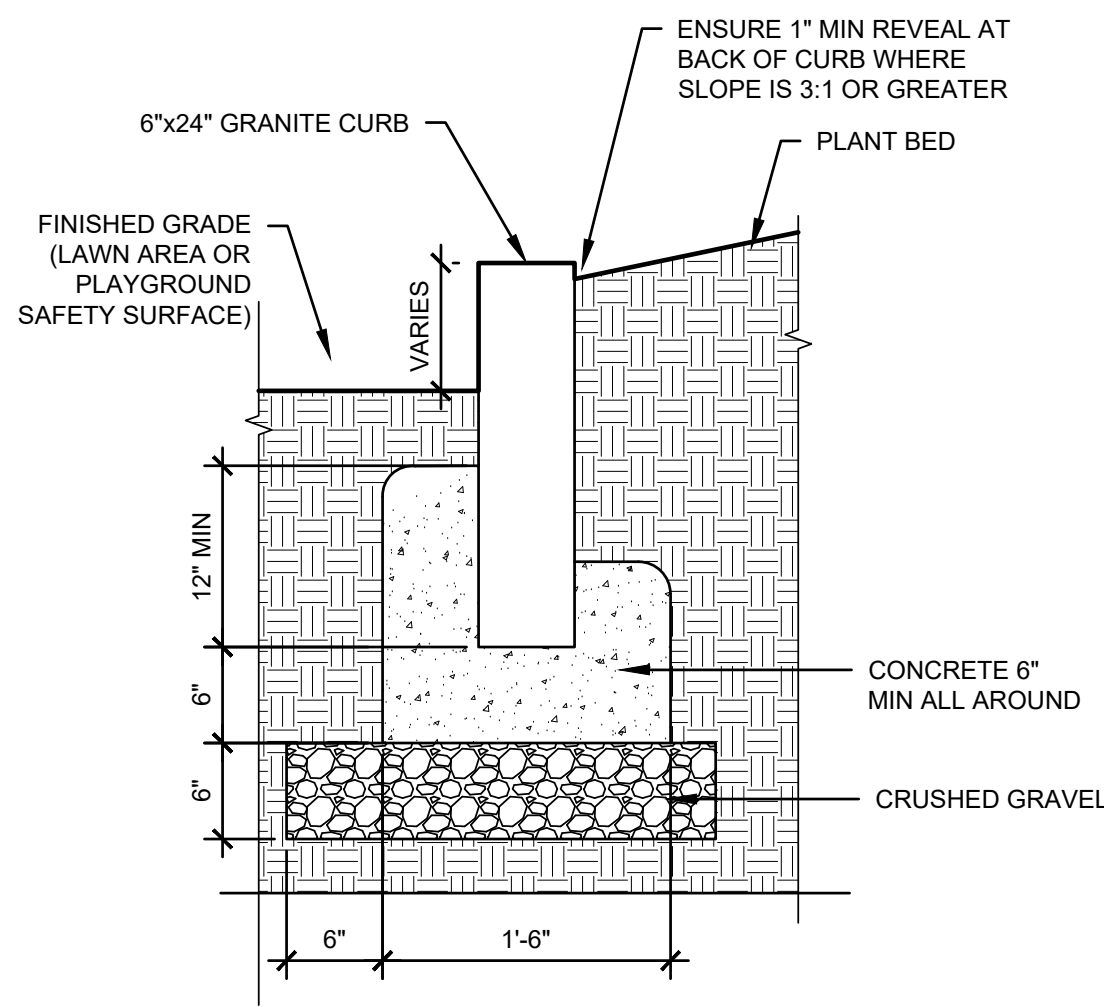
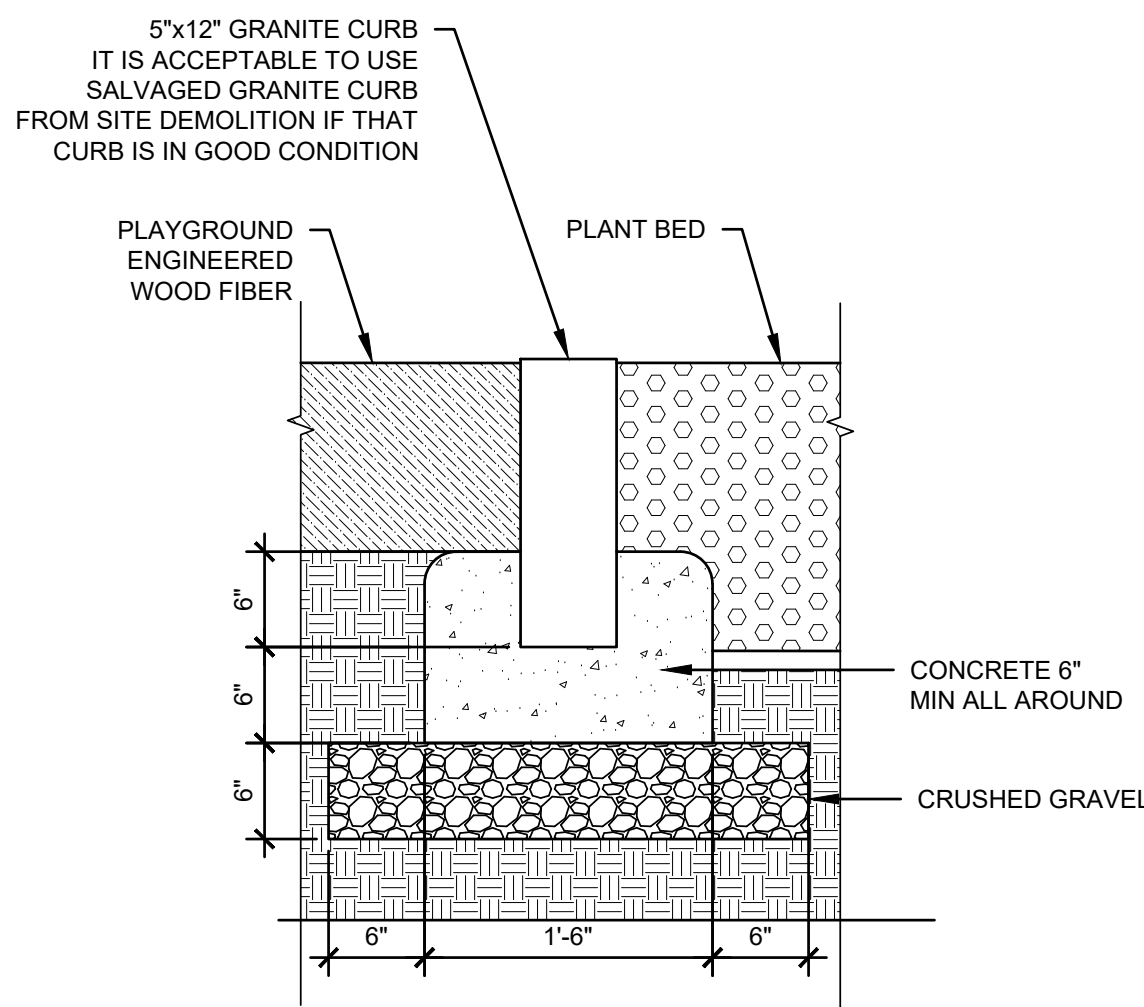
Drawing Title	
Plumbing & Electrical Layout	
Drawn by SR	Verified by MAB
Scale SR	Date 02/Aug/2020



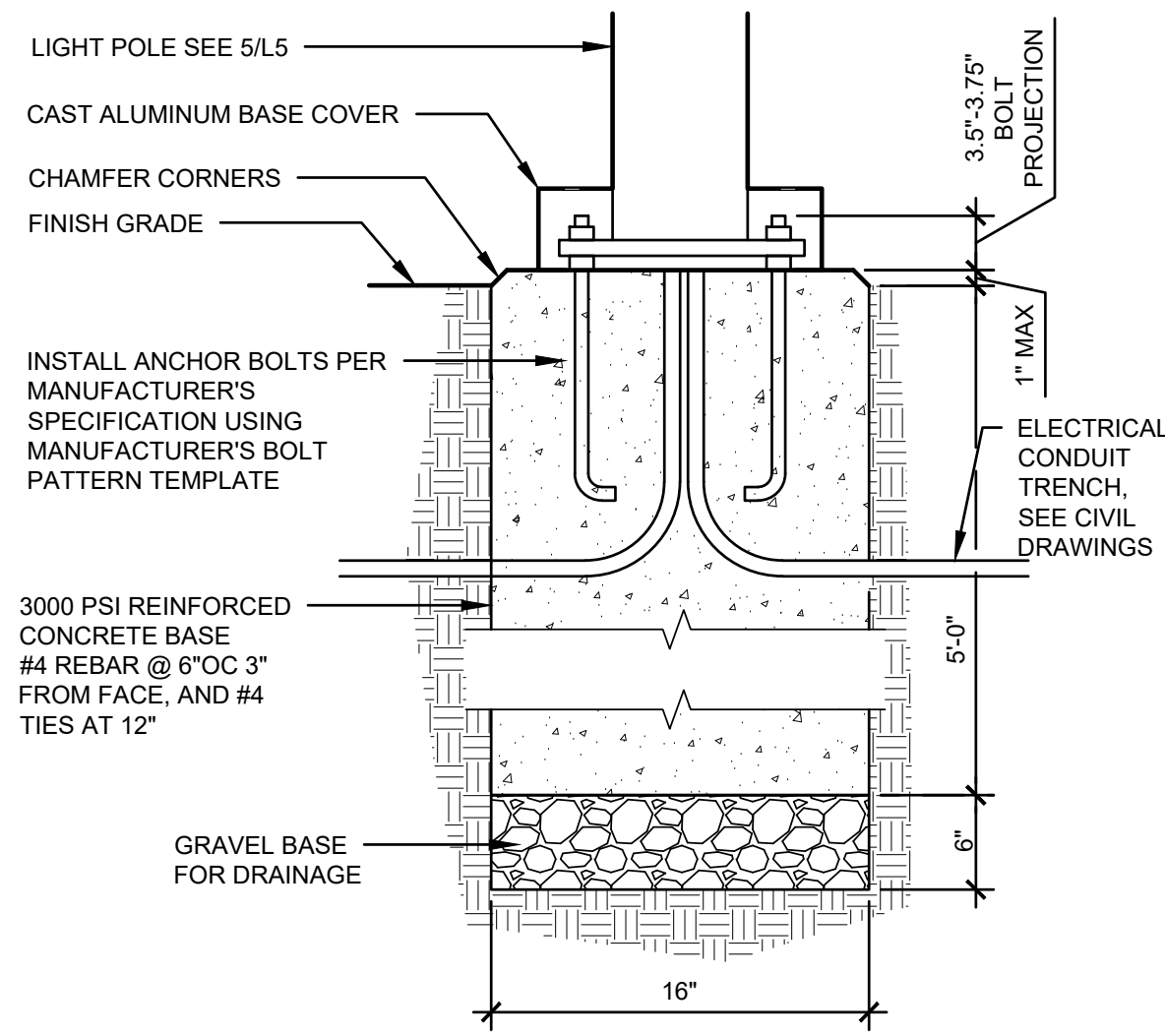
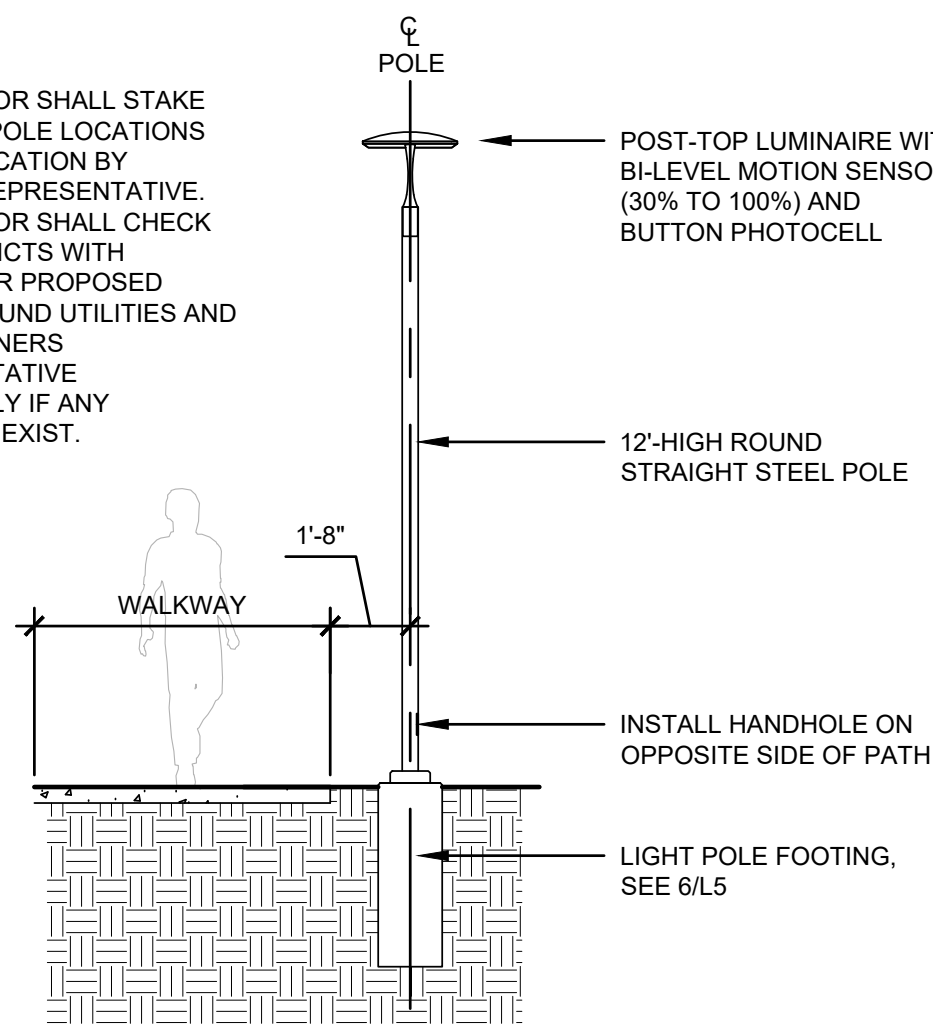


1 | 4'-HIGH ALUMINUM FENCE  
1"=1'-0"

2 | ALUMINUM FENCE GATES  
1"=1'-0"



NOTE  
CONTRACTOR SHALL STAKE ALL LIGHT POLE LOCATIONS FOR VERIFICATION BY OWNERS REPRESENTATIVE. CONTRACTOR SHALL CHECK FOR CONFLICTS WITH EXISTING OR PROPOSED UNDERGROUND UTILITIES AND NOTIFY OWNERS REPRESENTATIVE IMMEDIATELY IF ANY CONFLICTS EXIST.



3 | GRANITE CURB - FLUSH  
1"=1'-0"

4 | GRANITE CURB - RETAINING  
1"=1'-0"

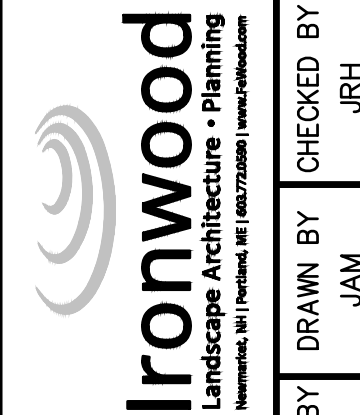
5 | LIGHT POLE ASSEMBLY AND LOCATION  
1/4"=1'-0"

6 | LIGHT POLE FOOTING  
1"=1'-0"

#### ELECTRICAL NOTES

- ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN AND SHALL COMPLY WITH THE MOST CURRENT NATIONAL ELECTRICAL CODE (NEC), NEW HAMPSHIRE STATE BUILDING CODE, OSHA, ADA, AND THE CITY OF MANCHESTER, NH CODES, STANDARDS AND SPECIFICATIONS.
- SCOPE OF ELECTRICAL WORK INCLUDES:  
INSTALLATION OF THE COMPLETE LIGHT POLE AND LUMINAIRE ASSEMBLY SPECIFIED IN THE CONTRACT DOCUMENTS INCLUDING SPECIFYING AND INSTALLING CIRCUITS, CONDUIT, WIRING, CONTROLS, JUNCTION BOXES, AND TRANSFORMERS AS NEEDED. SCOPE OF WORK ALSO INCLUDES PROVIDING ELECTRICAL SERVICES FOR SLASHPAD OPERATIONS AND IRRIGATION SYSTEM CONTROLS.
- POINT OF ELECTRICAL CONNECTION FOR PATH LIGHTS IS THE EXISTING SERVICE PANEL INSIDE THE POOL BATH HOUSE BUILDING. POINT OF CONNECTION FOR SPLASH PAD AND IRRIGATION CONTROLS IS THE EXISTING SERVICE PANEL INSIDE THE POOL UTILITY BUILDING. CONTRACTOR SHALL DETERMINE SUITABILITY OF CONNECTION POINTS PRIOR TO BID AND INCLUDE ANY NECESSARY PANEL UPGRADES IN BID. CONTRACTOR SHALL COORDINATE WITH CITY TO GAIN ACCESS INSIDE MUNICIPAL BUILDINGS.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL LABOR, MATERIALS, APPLIANCES, EQUIPMENT TOOLS, TRANSPORTATION, SUPERVISION, AND SERVICES REQUIRED TO FURNISH AND INSTALL, COMPLETELY TEST AND MAKE OPERATIVE, ALL ELECTRICAL WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR SHALL MAINTAIN OR RESTORE IF INTERRUPTED ELECTRICAL CONNECTIONS TO EXISTING LIGHTS TO REMAIN.
- ALL INSPECTION, LICENSE, AND PERMIT FEES RELATED TO ELECTRICAL WORK ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT FOR APPROVAL BEFORE PURCHASING. ALL EQUIPMENT SHALL BEAR THE LABEL OF A NATIONALLY RECOGNIZED TESTING LABORATORY.

LANDSCAPE ARCHITECT



**Hoyle, Tanner & Associates, Inc.**  
Pease International Tradeport  
100 International Dr., #360, Portsmouth, NH 03801  
Tel (603) 431-2520 Fax (603) 431-8067 Web: www.hoyletanner.com

CITY OF MANCHESTER  
DEPARTMENT OF PUBLIC WORKS  
475 VALLEY STREET  
MANCHESTER, NH 03103

PROJECT  
SHEEHAN-BASQUIL PARK  
RENOVATION - PHASE II  
MANCHESTER, NH

PLAYGROUND DETAILS

L5

PROJECT NO. 111121

SHEET 15 OF 16



